

حمل الآن

مجاناً وحصرياً

المراجعة رقم (1)

اختبار شهر ابريل



1 [A] Complete the following statement:

1 Mark

The inclined plane is used to....., while the claw hammer is used to during removing a nail fixed in a wooden board.

[B] An effort of 100 N is exerted to lift an object weighing 400 N using a crowbar.

2 Marks

Calculate:

(1) The effort arm if the distance from the fulcrum to the position of the object is 0.2 m

*

(2) The mechanical advantage of the crowbar.

*

2 [A] Write the scientific term of the following statement:

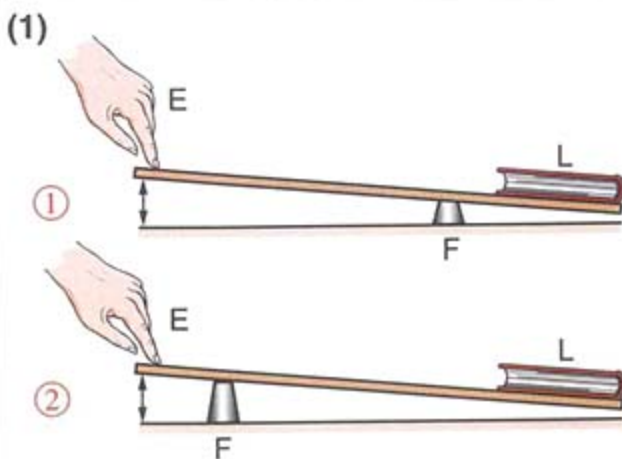
1 Mark

Moment of effort equals moment of load.

(.....)

[B] Study the following figures, then answer the questions below:

2 Marks



In which of the two figures, the applied effort is the least possible? Explain your answer.

*

(2)



Replace the numbers

①, ② and ③ with the elements of the lever, with mentioning its type.

*

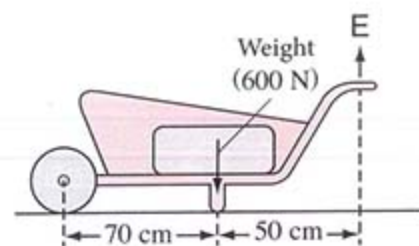
3 [A] Choose the correct answer:

1 Mark

From the opposite figure:

What is the effort (E) required to lift the wheelbarrow?

- (a) 350 N
- (b) 430 N
- (c) 600 N
- (d) 840 N



[B] Give reasons for the following:

3 Marks

(1) Second class levers always save effort.

*

(2) The human head represents a first class lever.

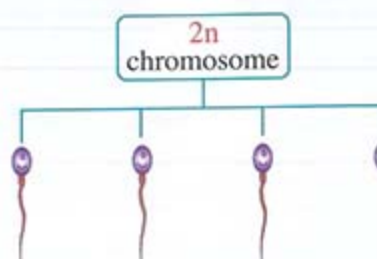
*

(3) Coal tongs usually do not save effort.

*

1 [A] Complete the following sentence :

The opposite figure represents a type of division called that occurs in the of the human male.



1 Mark

3 Marks

[B] Give reasons for the following:

(1) The potato plant and the chimpanzee animal are not similar although they have the same number of chromosomes in the somatic cells of each of them.

*

(2) Asexual reproduction does not cause appearance of new traits in the same species.

*

(3) Meiosis is called reductional division.

*

2 [A] Choose the correct answer :

If the number of chromosomes in a pollen grain of a flower is 7 chromosomes, then the number of chromosomes in one of its collenchymal cells equals

- (a) 7 chromosomes. (b) 14 chromosomes.
(c) 21 chromosomes. (d) 28 chromosomes.

1 Mark

2 Marks

[B] The opposite figure represents a vital phenomenon :

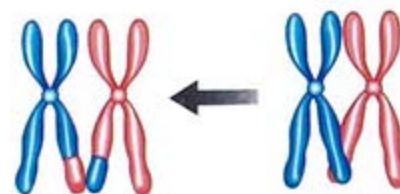
(1) What is the name of this phenomenon?

And what is the name of division in which it occurs?

*

(2) What is the importance of this phenomenon?

*



3 [A] Identify the odd item, then mention the connection between the others:

Intestinal cell / Ovary cell / Cardiac muscle cell / Ovum.

* /

1 Mark

[B] What happens when:

(1) Development of root which resulting from a bud in a potato tuber to absorb water and salts from the soil and the growth of stem and leaves towards the light.

*

(2) Fusion of a sperm of a male frog with an ovum of a female frog.

*

2 Marks

1 [A] Complete the following sentence:

1 Mark

The stamen consists of that ends with a swollen part called

[B] Mention one difference between each of the following:

3 Marks

(1) The calyx **and** the corolla.

*

(2) Tomato fruit **and** pomegranate fruit.

*

(3) Vegetative growth stage **and** seed dispersal stage in the life cycle of flowering plants.

*

2 [A] Mention the number of floral whorls in the flower of the eggplant. (.....)

1 Mark

[B] Give reasons for the following:

2 Marks

(1) Pollen grains in wind-pollinated flowers are smooth, while those in insect-pollinated flowers are rough.

*

(2) Naming simple umbel inflorescences as such.

*

3 [A] Choose the correct answer:

1 Mark

It is difficult to distinguish the colour of the sepals from the petals in the flowers of

(a) Egyptian rose.

(b) willow.

(c) petunia.

(d) daffodil.

[B] Study the following two figures, then answer:

2 Marks

(1)

What is the sex of this flower?

Give an example.

.....
.....



(2)

What is the name of the process represented by the diagram? **What** is the result of this process?

.....
.....



Exam Model ? ON UNIT 3

24 Marks

Question 1 6 Marks

A Complete the following sentences:

2 Marks

- (1) Sexual reproduction depends on division, while asexual reproduction depends on division.
- (2) Ovule turns into after completing the process.

B Mention one difference between each of the following:

4 Marks

- (1) Liver cell **and** ovum.

- (2) First meiotic division **and** second meiotic division.

- (3) Zucchini fruit **and** tomato fruit.

- (4) Stamen **and** carpel.

Question 2 6 Marks

A Choose the correct answer from the given options:

2 Marks

- (1) The flower symbolized by ♀ is
- (a) typical flower. (b) a flower that does not contain a pistil.
- (c) bisexual flower. (d) a flower that produces ovules.
- (2) Which of the following flowers is used to lower high blood pressure?
- (a) Chamomile. (b) Lavender.
- (c) Hibiscus. (d) Egyptian rose.

B (1) What is meant by each of the following:

2 Marks

1- The cell.

2- The cancerous tumor.

(2) From the adjacent figure:

1- What is the method of pollination in this flower?

2- Why does this flower produce pollen grains in huge numbers?

2 Marks



Question 3 6 Marks

A Use the following words to complete the sentences below:

2 Marks

less than , equals , greater than

- (1) The number of chromosomes in the ovule its number in the pollen grains.
- (2) The zygote contains a number of chromosomes its number in the human sperm.

B Mention the importance of each of the following:

4 Marks

(1) Mitosis.

.....

(2) Crossing-over phenomenon.

.....

(3) Stamen.

.....

(4) Receptacle.

.....

Question 4 6 Marks

A Put (✓) in front of the correct statement and (X) in front of the wrong ones:

2 Marks

- (1) Mitosis produces cells containing half the number of chromosomes of the parent cell. ()
- (2) All flowers that are cross-pollinated are unisexual. ()

B (1) Give reasons for the following:

2 Marks

1- Mitosis is called equational division.

.....

2- The peach fruit contains one seed, while the pea fruit contains many seeds.

.....

(2) From the two opposite figures:

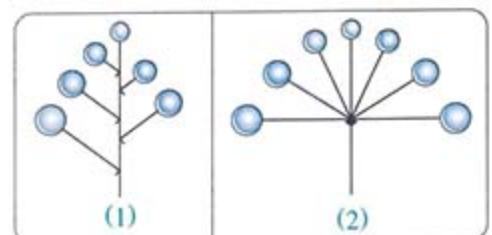
2 Marks

1- What does each of the two figures represent?

.....

2- Mention an example for each of them.

.....



1 [A] Write the scientific term that indicates the following statement:

1 Mark

The weight of a column of mercury 76 cm high acting on a unit area.

()

[B] Mention one difference between:

3 Marks

(1) Weather **and** climate.

*

(2) Land breeze **and** sea breeze.

*

(3) Absolute humidity **and** relative humidity.

*

2 [A] Choose the correct answer:

1 Mark

Altitude above sea level leads to an

- (a) increase in atmospheric pressure.
- (b) increase in air density.
- (c) increase in the temperature.
- (d) expansion of air.

[B] If the minimum temperature in a certain city is 17°C and the daily temperature range is 15°C

2 Marks

Calculate each of the following:

(1) Maximum temperature for this day.

*

(2) Daily average temperature.

*

3 [A] Complete:

1 Mark

The Sun rays are perpendicular to the area of and their inclination increases as they approach

[B] What are the results of each of the following:

2 Marks

(1) Decreasing of atmospheric pressure relative to the length of the mercury column in the barometer and the height of the Torricelli's vacuum.

*

(2) Evaporation of moisture from the mucous membranes lining the respiratory tract.

*

1 [A] Complete the following sentence :

1 Mark

The decreasing of both the temperature and the humidity in leads to the formation of atmospheric pressure region.

[B] Give reasons for the following:

3 Marks

(1) No deflection of wind path at the Equator.

*

(2) Formation of clouds and rainfall over low-pressure system.

*

(3) The radiosonde is known as the radio probe.

*

2 [A] Mark (✓) or (X), with correction :

1 Mark

The wind deflects in the Northern Hemisphere in an anticlockwise direction. ()

[B] Mention the importance of each of the following :

2 Marks

(1) Weather forecasting in protecting lives and property.

*

(2) Weather buoys.

*

3 [A] Choose the correct answer :

1 Mark

Which of the following expresses the low-pressure system?

- (a) It is symbolized by the letter L in blue colour.
- (b) Ascending air currents are formed above it.
- (c) The atmospheric pressure decreases as you move away from its center.
- (d) The weather at it is sunny.

[B] The opposite figure is for one of the atmospheric pressure maps:

2 Marks

(1) What do the lines on the map represent?

*

(2) In which direction does the wind move?

*



Exam Model ? ON UNIT 4

24 Marks

Question 1 6 Marks

A Cross out the odd word, then mention the relation between the rest of words:

2 Marks

- (1) Temperature / Solar radiation / Wind / Latitude.
- (2) Temperature / Humidity / Vegetation cover / Altitude above sea level.

B (1) 1- **What is the name** of the latitude located at latitude 0° , **and is** the temperature there high **or** low? **With explanation.**

2 Marks

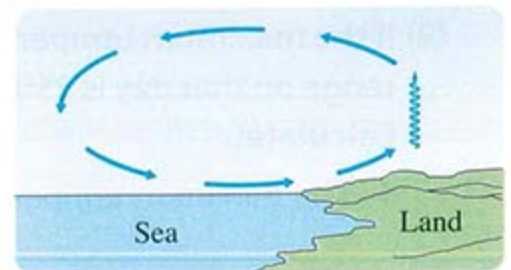
2- **Compare** between the latitudes 90°N and 60°S «In terms of: Atmospheric pressure».

(2) **The opposite figure represents one of the natural phenomena:**

2 Marks

1- **What** is the name of this phenomenon?
And when does it occur (daytime or night)?

2- **What** is the reason for this phenomenon?



Question 2 6 Marks

A Complete the following sentences:

2 Marks

- (1) The Egyptian lynx is an animal of the region, while the polar bear is an animal of the region.
- (2) Winds in the Northern Hemisphere move to the of their original direction due to

B **The radiosonde is one of the techniques used in weather forecasting:**

4 Marks

(1) **What** gas is used to fill this radiosonde? **With explanation.**

(2) **Why** does the radiosonde balloon explode at an altitude of 20 – 35 km above the Earth's surface?

(3) **What** is the reason for naming this probe as a radiosonde?

(4) **How** does the technique of weather buoys differ from the radiosonde?

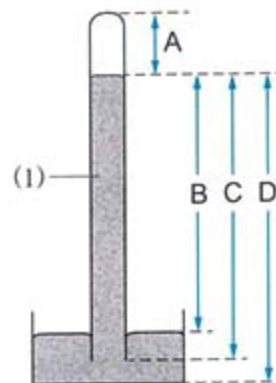
Question 3 6 Marks**A Write the scientific term of each of the following statements:**

2 Marks

- (1) The prevailing state of the atmosphere in a specific location over a long period of time. (.....)
- (2) Storms which are loaded with sand and dust that blow over Egypt in the spring of every year. (.....)

B (1) The opposite figure shows a device used to measure one of the weather elements:

2 Marks

1- What is the name of this device?**And what is it used for?****2- Which letter shown on the figure indicates the value to be measured?****And what is the name of the substance (1)?**

- (2) If the maximum temperature in one area is 42°C and the daily temperature range on that day is 25°C

2 Marks

Calculate:**1- The minimum temperature for that day.****2- Daily average temperature.****Question 4** 6 Marks**A Choose the correct answer:**

2 Marks

- (1) When heating the air inside closed rooms
- (a) absolute humidity remains constant and relative humidity decreases.
(b) relative humidity remains constant and absolute humidity decreases.
(c) absolute humidity and relative humidity decrease.
(d) absolute humidity and relative humidity increase.
- (2) Lines of equal atmospheric pressure on weather maps are known as
- (a) isotopes. (b) isobars. (c) isotones. (d) isomers.

B (1) Give reasons for the following:

2 Marks

1- Weather forecasts are probabilistic predictions and not absolute facts.**2- Stevenson screen is placed elevated above the ground surface.**

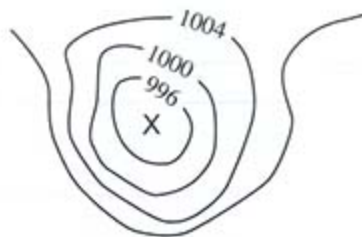
(2) Study the following two figures, then answer the questions below each:

2 Marks



1- What weather condition is represented by this icon?

.....



2- Is (X) represented by the letter H or L? **With explanation.**

.....

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

المراجعة رقم (2)

اختبار شهر ابريل



1- A) Put (✓) or (X):

- 1 Vegetative reproduction leads to variation in the inherited characteristics of the resulting individuals. ()
- 2 The whorl that protects the inner parts of the flower before blooming is the corolla. ()

B) Give a reason for:

- 1 All second-class levers save effort.
•
- 2 The flower of the palm plant is unisexual.
•
- 3 Increasing the temperature near the Equator.
•

2- A) Answer the following questions:

- 1 **Compare between:** somatic cells and reproductive cells. (In terms of definition and number of chromosomes).
•
- 2 **Calculate** the mechanical advantage of a lever that lifts a car with weight equals 15000 N using an effort equals 1000 N.
•

B) Write the scientific term:

- 1 The point around which the lever moves. (.....)
- 2 The atmospheric condition in a certain place over a long period of time. (.....)
- 3 The part of the stem that carries a cluster of flowers. (.....)

3- A) What happens when ...?

1 Stamen and carpels mature at the same time in some flowers.

•

2 A piece of potato tuber is placed in suitable environmental condition.

•

B) Answer the following questions:

1 What is the importance of mitosis in human?

•

2 Look at the opposite figure, then answer:

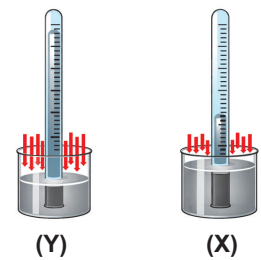
a) What is the name and importance of the opposite device?

•

•

b) Identify which figure represents the device at the peak of the mountain. **Explain**

•



1- A) Choose the correct answer:

- 1 Normal atmospheric pressure at sea level equals mb.
a) 760 b) 1013.25 c) 100 d) 76
- 2 If 4 successive mitotic divisions occur in a skin cell, the number of resulting cells equals
a) 4 b) 8 c) 16 d) 32

B) First: What is the importance of ...?

- The wedge

.....

Second: Give a reason for:

- 1 The peach fruit contains one seed, while the pea fruit contains many seeds.
.....
- 2 Vegetative reproduction is a form of asexual reproduction.
.....

2- A) Answer the following questions:

1 What happens when ...?

- Increasing altitudes above sea level (Regarding the air density).

.....

2 What is meant by ...?

- Law of levers

.....

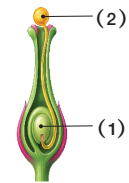
B) Correct the underlined words:

- 1 The floral whorl that is not present in the male flower is the calyx. (.....)
- 2 The purpose of mitosis is to form gametes. (.....)
- 3 Second class levers are used in precise and dangerous tasks. (.....)

3- A) Look at the opposite figures, then answer:

- 1 What is the result of the fusion of part (1) with part (2)?
And what is the name of this process?

•



- 2 Which figure represents the lever that has a greater mechanical advantage?

•



B) First: What is meant by ...?

- 1 Daily average temperature

•

- 2 Reproduction

•

Second: Give an example of:

- A plant with a corymb inflorescence.

•

1- A) Complete the following sentences:

- 1 While standing on tiptoes, the represent the effort.
- 2 The number of chromosomes in cardiac muscle cells in humans is symbolized by (.....).

B) Answer the following questions:

- 1 If the mechanical advantage of a lever equals 4. **Calculate** the effort required to lift a load whose weight is 400 N.

.....

- 2 If the number of chromosomes in the sperm of a male animal is 8 chromosomes, **what is the number of chromosomes in the following cells?**

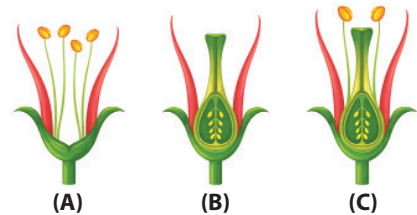
– Muscle cell of this animal. (.....)

– Ovum of the female of this animal. (.....)

- 3 Look at the opposite figures, then identify the sex of each flower:

.....

.....



2- A) Give a reason for:

- 1 Sexual reproduction is the source of diversity among the species' individuals.

.....

- 2 The stigma of wind-pollinated flowers is feathery and sticky.

.....

B) First: Cross out the odd word:

- 1 Nutcracker – Seesaw – Scissors – Pliers.

.....

- 2 Stigma – Style – Ovary – Stamen.

.....

Second: Put (✓) or (X):

- The Tropic of Cancer is located at an altitude of 23.5°S , while the Tropic of Capricorn is located at an altitude of 23.5°N . ()

3- A) What is the importance of ...?

1 Forceps

•

2 Hibiscus flowers

•

B) First: What happens when ...?

1 The nucleus of the male gamete fuses with the nucleus of the female gamete.

•

2 Increasing the inclination of the Sun's rays in a certain place.

•

Second: If the maximum temperature in an area is 26°C and the minimum temperature is 8°C . **Calculate** the daily average temperature and daily temperature range.

•

1- A) Correct the underlined words:

- 1 Carpels are delicate white or colored leaves that attract insects. (.....)
- 2 In the human body, the head represents a second class lever. (.....)

B) First: Compare between:

- 1 Phenomenon of land breeze and phenomenon of sea breeze. (In terms of: reason for occurrence).

Points of comparison	Land breeze	Sea breeze
Reason for occurrence		

- 2 Pollen grains in wind-pollinated flowers and pollen grain in insect-pollinated flower.

Points of comparison	Wind-pollinated flowers	Insect-pollinated flower
Pollen grains		

Second: What is meant by ...?

- Bract

●

2- A) Give an example of each of the following:

- 1 Typical flower.
●
- 2 Somatic cells in a plant.
●

B) First: Write the scientific term:

- 1 The weight of a column of air with a cross-sectional area of 1 m^2 and a height equal to the height of the atmosphere. (.....)
- 2 They are male and female reproductive organs that produce reproductive cells called gametes. (.....)
- 3 A swollen part at the end of the flower pedicel that carries the floral whorls. (.....)

3- A) Give a reason for:

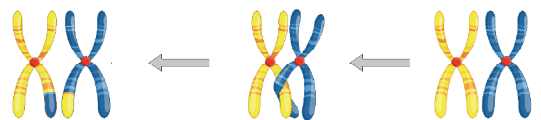
- 1 Temperature is considered the most important climate element.
•
- 2 The pistil is the female organ, while the stamen is the male organ in the flower.
•

B) First: What happens when ...?

- 1 The effort arm is longer than the load arm in a lever.
•
- 2 Decreasing humidity is a certain place. (In terms of atmospheric pressure).
•

Second: Look at the opposite figure, then complete:

- This phenomenon is called the, which occurs during



1- A) Put (✓) or (X):

- 1 When the trapped air inside a closed container is heated, the pressure increases as a result of its constant volume. ()
- 2 The frog is similar to the potato plant in that the somatic cells of each of them contains 48 chromosomes. ()

B) First: What is meant by ...?

- 1 The lever.
•
- 2 The cell.
•

Second: Give a reason for:

- Willow flowers are known as naked flowers.
•

2- A) What happens ...?

- 1 The effort arm equals the load arm in the lever.
•
- 2 The division of a gonad cell of a human male by meiosis.
•

B) First: Complete the following sentences:

- 1 The peduncle may carry many flowers forming what is called the
- 2 Saying that the temperature in Cairo is expected to reach 35°C tomorrow with clear sunshine describes

Second: Cross out the odd word:

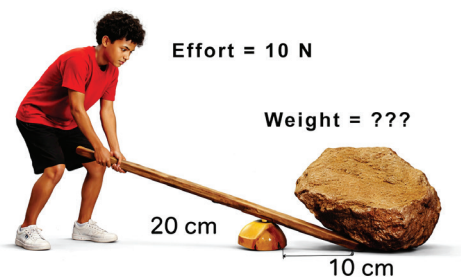
- Crowbar – Tweezers – Seesaw – Pliers.
•

3- A) Answer the following questions:

1 Look at the opposite figures, then answer:

- Mention the type of this lever and the weight of the rock when this lever is at equilibrium.

-
-
-



2 Compare between: sexual reproduction and asexual reproduction. (In terms of the number of individuals that participate in the reproduction – types of division).

-

(B) Mention:

1 The factors affecting on the atmospheric pressure.

-

2 The importance of Receptacle.

-

3 The four main stages of the life cycle of flowering plants passes through.

-

1- A) Put (✓) or (X):

- ① Vegetative reproduction leads to variation in the inherited characteristics of the resulting individuals. (X)
- ② The whorl that protects the inner parts of the flower before blooming is the corolla. (X)

B) Give a reason for:

- ① All second-class levers save effort.
 - Because the effort arm is always greater than the load arm.
- ② The flower of the palm plant is unisexual.
 - Because it contains only the male organ (stamen) or the female organ (pistil).
- ③ Increasing the temperature near the Equator.
 - Because the Sun rays fall perpendicular to these areas.

2- A) Answer the following questions:

- ① **Compare between:** somatic cells and reproductive cells. (In terms of definition and number of chromosomes).

Points of comparison	Somatic cells	Reproductive cells
Definition	They include all cells of the living organism, except the reproductive cells.	They are specialized cells responsible for sexual reproduction in living organisms.
Number of chromosomes	They contain the complete number of chromosomes in the form of homologous pairs.	They contain the half number of chromosomes of the somatic cells.

- ② **Calculate** the mechanical advantage of a lever that lifts a car with weight equals 15000 N using an effort equals 1000 N.

• Mechanical advantage of a lever = $\frac{\text{Load}}{\text{Effort}} = \frac{15000}{1000} = 15.$

B) Write the scientific term:

- ① The point around which the lever moves. (Fulcrum)
- ② The atmospheric condition in a certain place over a long period of time. (Climate)
- ③ The part of the stem that carries a cluster of flowers. (Peduncle)

3- A) What happens when ...?

- 1 Stamen and carpels mature at the same time in some flowers.
 - Pollination occurs in them by cross-pollination.
- 2 A piece of potato tuber is placed in suitable environmental condition.
 - The buds germinate, forming a small stem that grows upward carrying the growing leaves, while at the same time other cells in the buds begin to form primary roots that extend into the soil.

B) Answer the following questions:

1 What is the importance of mitosis in human?

- 1- Growth of the body of living organisms.
- 2- Replacing dead and damaged tissues, such as wound healing and repairing blood vessels.

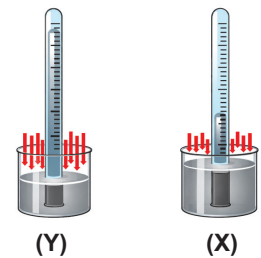
2 Look at the opposite figure, then answer:

a) What is the name and importance of the opposite device?

- Mercury barometer, it used to measure atmospheric pressure.

b) Identify which figure represents the device at the peak of the mountain. **Explain**

- Figure (X), because as you rise above sea level, the atmospheric pressure decreases and thus the height of the air column affecting the unit area decreases and therefore the height of the mercury column decreases.



1- A) Choose the correct answer:

- 1 Normal atmospheric pressure at sea level equals mb.
a) 760 b) 1013.25 c) 100 d) 76
- 2 If 4 successive mitotic divisions occur in a skin cell, the number of resulting cells equals
a) 4 b) 8 c) 16 d) 32

B) First: What is the importance of ...?

- The wedge
 - It is used to change the direction of the applied force.

Second: Give a reason for:

- 1 The peach fruit contains one seed, while the pea fruit contains many seeds.
• Because the ovary in the flower of the peach plant contains one ovule, while in the flower of the pea plant contains several ovules.
- 2 Vegetative reproduction is a form of asexual reproduction.
• Because it occurs through a single parent individual.

2- A) Answer the following questions:

- 1 What happens when ...?
• Increasing altitudes above sea level (Regarding the air density).
• The air density decreases.
- 2 What is meant by ...?
• Law of levers
• The product of multiplying the effort by its arm equals the product of multiplying the load by its arm.

B) Correct the underlined words:

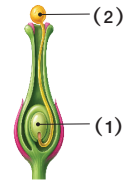
- 1 The floral whorl that is not present in the male flower is the calyx. (pistil)
- 2 The purpose of mitosis is to form gametes. (meiosis)
- 3 Second class levers are used in precise and dangerous tasks. (Third)

3- A) Look at the opposite figures, then answer:

1 What is the result of the fusion of part (1) with part (2)?

And what is the name of this process?

- Zygote; this process is known as fertilization.



2 Which figure represents the lever that has a greater mechanical advantage?

- Figure (2).



B) First: What is meant by ...?

1 Daily average temperature

- The arithmetic mean of the maximum and minimum temperatures during one day.

2 Reproduction

- It is a vital process through which the living organism produces new individuals of the same species, ensuring the continuity of life and protecting the species from extinction.

Second: Give an example of:

- A plant with a corymb inflorescence.

- Candytuft plant

1- A) Complete the following sentences:

- 1 While standing on tiptoes, the **calf muscles** represent the effort.
- 2 The number of chromosomes in cardiac muscle cells in humans is symbolized by **(2n)**.

B) Answer the following questions:

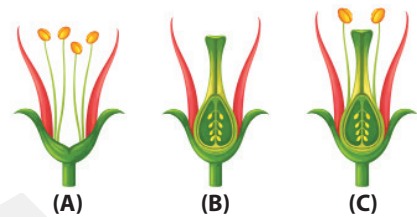
- 1 If the mechanical advantage of a lever equals 4. **Calculate** the effort required to lift a load whose weight is 400 N.
 - **Mechanical advantage = load/effort**
 $\text{Effort} = 400/4 = 100 \text{ N}$.

- 2 If the number of chromosomes in the sperm of a male animal is 8 chromosomes, **what is the number of chromosomes in the following cells?**

- Muscle cell of this animal. **(16 chromosomes)**
- Ovum of the female of this animal. **(8 chromosomes)**

- 3 Look at the opposite figures, then identify the sex of each flower:

- (A) male flower.
- (B) female flower.
- (C) bisexual flower.



2- A) Give a reason for:

- 1 Sexual reproduction is the source of diversity among the species' individuals.
 - Due to the occurrence of crossing-over phenomenon between homologous chromosomes during the first meiotic division.
- 2 The stigma of wind-pollinated flowers is feathery and sticky.
 - To trap pollen grains.

B) First: Cross out the odd word:

- 1 Nutcracker – Seesaw – Scissors – Pliers.
 - Nutcracker.
- 2 Stigma – Style – Ovary – Stamen.
 - Stamen.

Second: Put (✓) or (X):

- The Tropic of Cancer is located at an altitude of 23.5°S, while the Tropic of Capricorn is located at an altitude of 23.5°N. **(X)**

3- A) What is the importance of ...?

- 1 Forceps
 - The forceps are used in precise tasks.
- 2 Hibiscus flowers
 - Used to lower high blood pressure.

B) First: What happens when ...?

- 1 The nucleus of the male gamete fuses with the nucleus of the female gamete.
 - A zygote is formed, which carries the complete number of chromosomes of the species.
- 2 Increasing the inclination of the Sun's rays in a certain place.
 - The temperature decreases.

Second: If the maximum temperature in an area is 26°C and the minimum temperature is 8°C. **Calculate** the daily average temperature and daily temperature range.

- The daily temperature range = maximum temperature – minimum temperature
= 26 – 8 = 18 °C.

The daily average temperature = maximum temperature + minimum temperature / 2

$$\frac{26 + 8}{2} = \frac{34}{2} = 17 \text{ °C}$$

1- A) Correct the underlined words:

- ① Carpels are delicate white or colored leaves that attract insects. (Petals)
- ② In the human body, the head represents a second class lever. (first)

B) First: Compare between:

- ① Phenomenon of land breeze and phenomenon of sea breeze. (In terms of: reason for occurrence).

Points of comparison	Land breeze	Sea breeze
Reason for occurrence	The specific heat of water is higher than that of the adjacent land, making water bodies warmer than the adjacent land.	The specific heat of water is higher than that of the adjacent land, making water bodies cooler than the adjacent land.

- ② Pollen grains in wind-pollinated flowers and pollen grain in insect-pollinated flower.

Points of comparison	Wind-pollinated flowers	Insect-pollinated flower
Pollen grains	- Light, dry, and smooth. - They are produced in large numbers.	- Sticky or rough.

Second: What is meant by ...?

- Bract
 - The leaf which the vegetative bud emerges from its axil and develops into a flower.

2- A) Give an example of each of the following:

- ① Typical flower.
 - Egyptian rose.
- ② Somatic cells in a plant.
 - The collenchyma cells – The parenchyma cells.

B) First: Write the scientific term:

- ① The weight of a column of air with a cross-sectional area of 1 m² and a height equal to the height of the atmosphere. (Atmospheric pressure)
- ② They are male and female reproductive organs that produce reproductive cells called gametes. (Gonads)
- ③ A swollen part at the end of the flower pedicel that carries the floral whorls. (Receptacle)

3- A) Give a reason for:

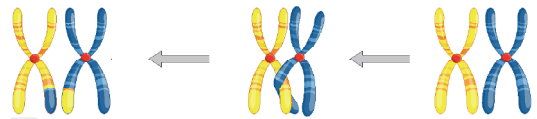
- 1 Temperature is considered the most important climate element.
 - Because of its direct impact on each of: human life and the distribution of plants and animals on the Earth's surface.
- 2 The pistil is the female organ, while the stamen is the male organ in the flower.
 - Because the pistil produces female gametes (ovules), while the stamen produces male gametes (pollen grains).

B) First: What happens when ...?

- 1 The effort arm is longer than the load arm in a lever.
 - The mechanical advantage of this lever is greater than 1 and thus it saves effort.
- 2 Decreasing humidity is a certain place. (In terms of atmospheric pressure).
 - Atmospheric pressure increases slightly.

Second: Look at the opposite figure, then complete:

- This phenomenon is called the **crossing-over phenomenon**, which occurs during **first meiotic division**.



1- A) Put (✓) or (X):

- 1 When the trapped air inside a closed container is heated, the pressure increases as a result of its constant volume. (✓)
- 2 The frog is similar to the potato plant in that the somatic cells of each of them contains 48 chromosomes. (X)

B) First: What is meant by ...?

- 1 The lever.
 - It is a rigid rod, either straight or curved, that is pivoted on a fixed point; during its use, it is acted upon by two forces which are the effort and the load.
- 2 The cell.
 - It is the unit of structure and function in living organisms.

Second: Give a reason for:

- Willow flowers are known as naked flowers.
 - Because they lack both sepals and petals.

2- A) What happens ...?

- 1 The effort arm equals the load arm in the lever.
 - The mechanical advantage of this lever equals 1 and thus it does not save effort.
- 2 The division of a gonad cell of a human male by meiosis.
 - Four cells (sperm) are produced, each containing half the number of chromosomes of the parent cell.

B) First: Complete the following sentences:

- 1 The peduncle may carry many flowers forming what is called the **inflorescence**.
- 2 Saying that the temperature in Cairo is expected to reach 35°C tomorrow with clear sunshine describes **the weather**.

Second: Cross out the odd word:

- Crowbar – Tweezers – Seesaw – Pliers.
 - Tweezers

3- A) Answer the following questions:

1 Look at the opposite figures, then answer:

- Mention the type of this lever and the weight of the rock when this lever is at equilibrium.

- The lever is first class lever.

$$\text{Effort} \times \text{Effort arm} = \text{Load} \times \text{Load arm}$$

$$= 10 \times 20 = \text{Load} \times 10$$

$$\text{Load} = 20 \text{ N.}$$



2 Compare between: sexual reproduction and asexual reproduction. (In terms of the number of individuals that participate in the reproduction – types of division).

Points of comparison	Sexual reproduction	Asexual reproduction
The number of individuals that participate in the reproduction	It involves two parental individuals.	It depends on a single parental individual.
Types of division	Meiotic division	Mitotic division

(B) Mention:

1 The factors affecting on the atmospheric pressure.

- Altitude above sea level – Temperature – Humidity.

2 The importance of Receptacle.

- It carries the floral whorls.

3 The four main stages of the life cycle of flowering plants passes through.

- 1- Germination
- 2- Vegetative growth
- 3- Reproduction
- 4- Seed dispersal

حمل الآن

مجاناً وحصرياً

المراجعة رقم (3)

اختبار شهر ابريل





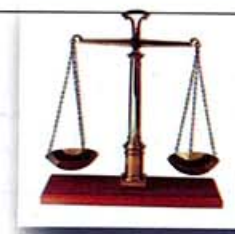
Lesson 2 : Levers



Classroom Performance

Patent for Invention

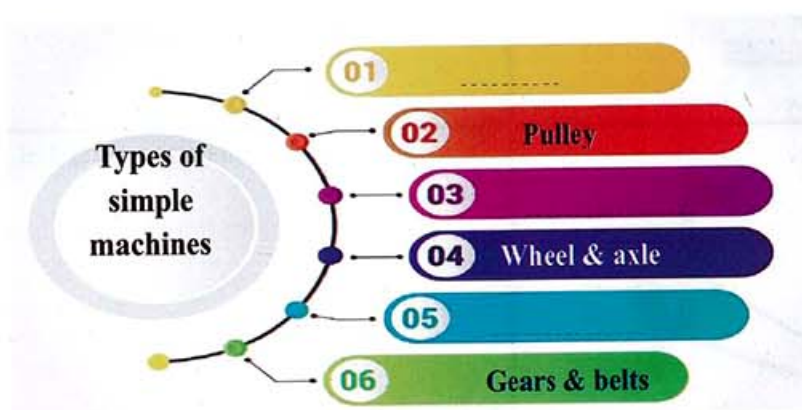
Since ancient times, man has been inventing machines that help him perform his heavy tasks easily. Take note of the following images and then get to know them using the internet.



What professions use the previous machines?

Simple Machine:

A tool that may have some moving parts and is used to make it easier to perform a task and reduce the exerted effort.



Complete the following table:

Machine	Type	Its importance
	.....	Change of force direction when lifting or lowering weights
	wedge	
		



	BBQ tongs	 Avoiding the risk of burning
 Hammer Claw	Lever	..... .....
	.....	Transmission and speed change



Levers

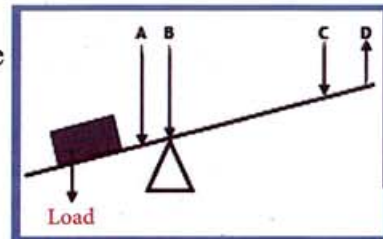
- Select on the following figures (Fulcrum - Effort - Load) and then mention the type of lever you belong to, explaining which one saves effort and which does not:

Figure	Type of lever	Figure	Type of lever
			
			
			
			

The Law of Levers

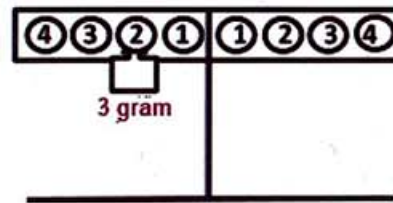
Study the problems in front of you and then answer:

Which figure of the following efforts (A-B-C-D) will raise the load more easily with the explanation



Choose the correct answer:

In order for the lever to be balance, a load of (2 g) is placed at a distance representing the number
(1 - 2 - 3 - 4)



Complete:

The following figures represents a lever from



..... type



..... type



..... type

You have a set of tools to choose from them that achieve the following levers:

Hockey bat

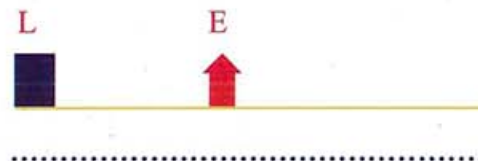
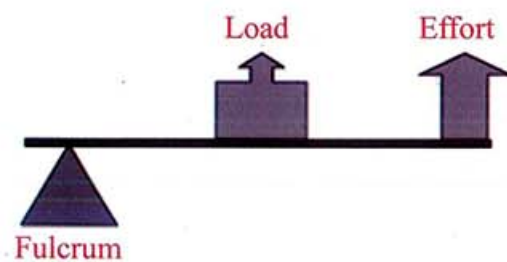
Garden cart

Lemon squeezers

Swing

Scissors

Candy Mask



Using the textbook and in the light of what you have studied, clarify what is meant by the following concepts:

Simple Machine	.....
Lever	.....
Fulcrum	.....
Effort arm	.....
Load arm	.....
The Law of Levers	.....
Moment of effort	.....
Moment of load	.....
Mechanical advantage of lever	.....



Homework Performances

Complete the following:

- 1-The effort arm is equal to the load arm in the levers
- 2-The most common type of levers are class levers.
- 3-If the effort exerted is half the value of the resistance and the load arm is 50 cm then the effort arm is equal to cm.

Correct the underlined words:

- 1-Soda water opener is a type first class lever .
- 2-One of the functions of the levers is to reduce the effort as in manual broom.
- 3-The first type of levers differ from the second type of levers in the presence of an effective effort.
- 4-The fishing rod is one of the second type of levers.

Mention the importance of each of the following:

- 1- lever :
- 2-Tweezers :
- 3- Crowbar :



Weekly Assessment

Write the scientific term:

- 1-A fixed point on which a rigid bar rests.
- 2-Levers where the fulcrum between effort and load .
- 3-Levers where the effort is between the load and the fulcrum point.
- 4-Levers where the load is between the effort and the fulcrum point.
- 5-The distance between the weight representing the load and the fulcrum point.

Complete the following statements:

- 1-Levers make tasks easier by , and
- 2-The crowbar is a class lever, while the manual broom is a class lever
- 3-The lever is in a state of equilibrium when the moment of the effort and the moment of load are

4-A machine saves effort when its mechanical advantage value is greater than

5-Increasing the length of the effort arm leads to

6-Second class levers are different from third class levers in

7-Examples of levers that increase speed

8-First class levers save effort when is longer than

What happens in the following cases

1 – The levers were not detected.

2- If the effort arm is longer than the load arm in the levers.

Give Reasons for the following:

1- Second class levers always save effort .

2 – Simple machines are very important in our lives.

3. The effort and load can be equal to the first type of levers only.

4- Third class levers do not always save effort.

5- Fixed pulley is a type of first-class lever.

Compare between:

The first, second and third class of levers in terms of: (definition – mentioning an example of each type – saving effort).

Problem:

1-A type of first class lever had a force of 40 N and a effort arm of 5 cm. It affected a load of 100 N.

Calculate the length of the load arm? Does the lever save effort or not?

2-Imagine trying to break a hard hazelnut shell and you have to choose between two similar crushers, one of which has a longer hand than the other.

Determine: What kind of levers is the nutcracker? And how does it work?

Which two crushers will you use?

Where do you put the hazelnut for the arms?

3-Imagine trying to lift a huge rock using a metal pole as a lever and a small stone as a fulcrum. (Explain your answer with a drawing).

1 - What type of levers will be used?

2 - Will you choose a long or short column to get the job done?

3 - Where will you put the small stone in relation to the huge rock?

4-A lever affected by a force of 30 N, its length 20 cm, and a load of 20 N and a load arm length of 10 cm.

1 – Is this lever balanced? and why?

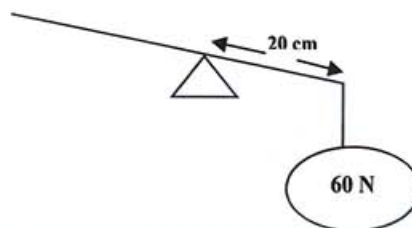
2 – If the lever is unbalanced, what is the length of the load arm that achieves balance?

5- Using the following table, **find the value of x, y** and state the law of levers.

Effort (Newton)	Effort Arm (cm)	Load (Newton)	Load Arm (cm)
X	5	1	10
4	5	2	Y

6 – **In the corresponding figure:**

On what dimension of the fulcrum does a load of 30 N is hanged, to balance the lever?





Lesson 1 : Cellular division



Classroom Performance

Origin of life

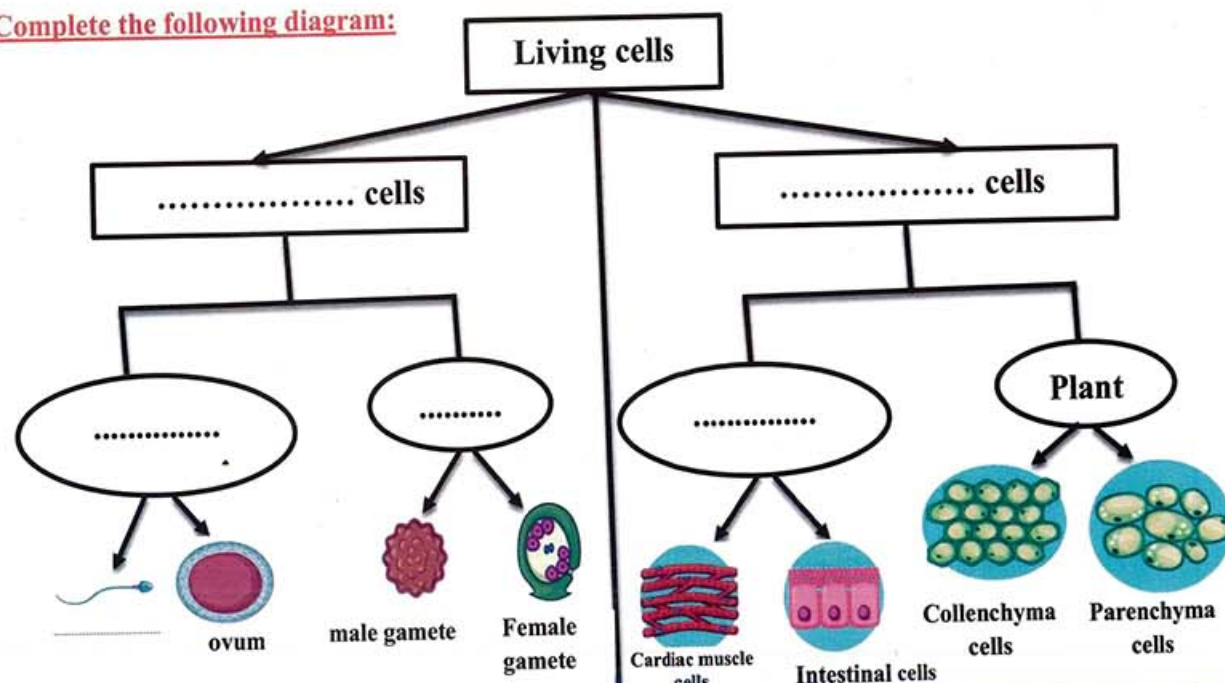
– Remember that there are two types of cells cell found in and cell found in

– Living organisms share in common characteristics such as nutrition, respiration, and and reproduction, and others.

Completed Table

Living organism	Number of chromosomes in			
	Somatic cell (2n)	Ovum (n)	Sperm (n)	Pollen grain (n)
Human	46	.....	.....	—
Gorilla	.....	.....	24	—
Pea plant	14	.....	—	.....
Wheat	.....	21	—	.....
Fruit fly	8	.....	.....	—

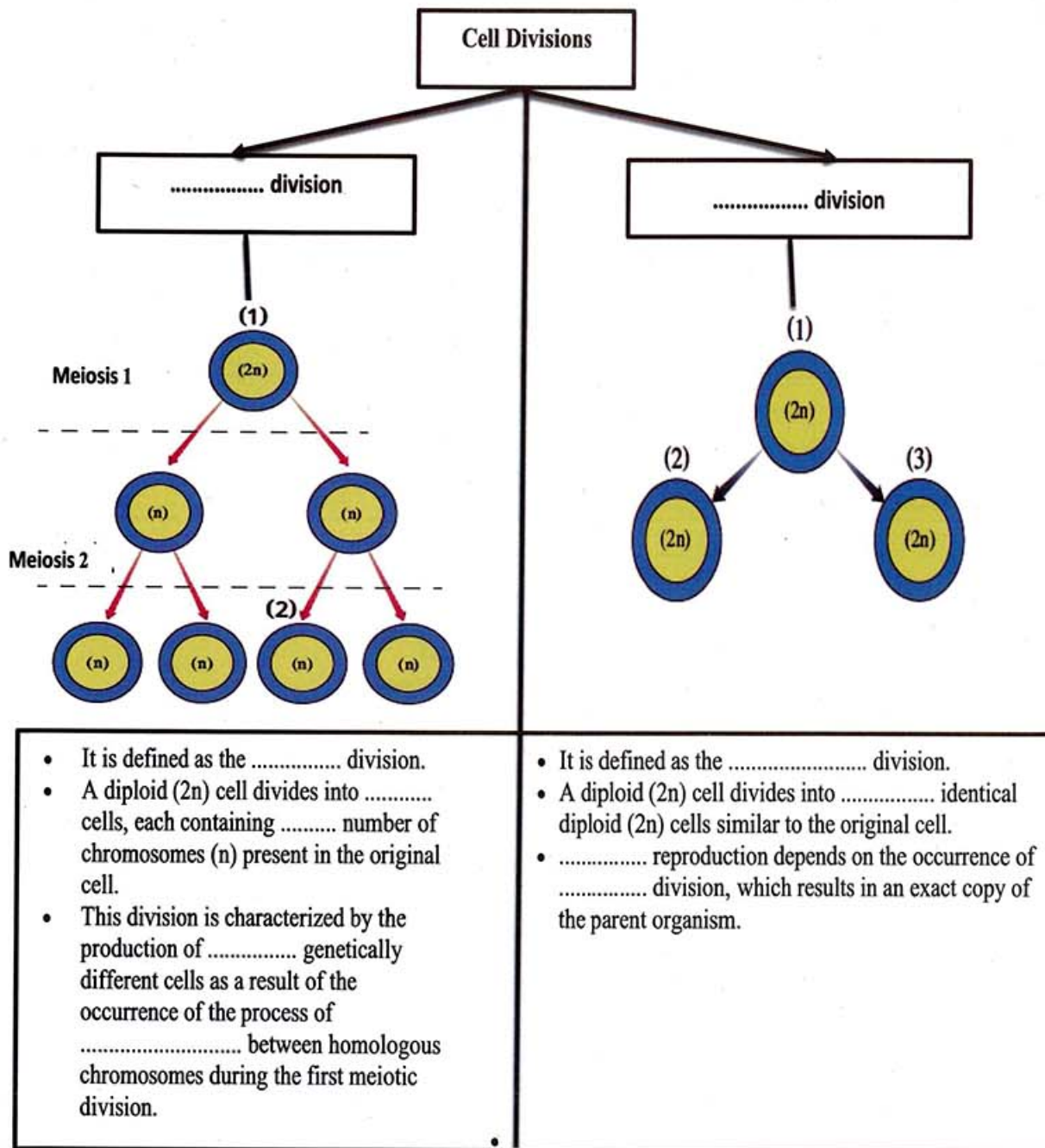
Complete the following diagram:



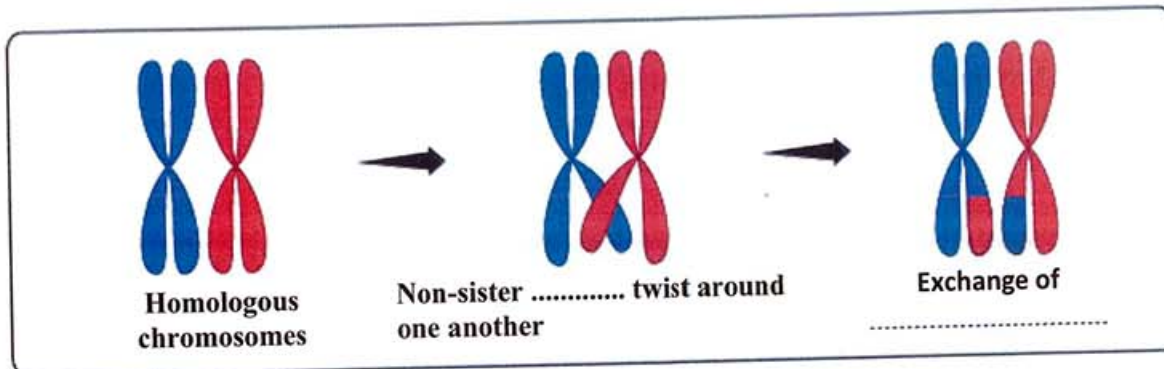
Gametes are produced by the gonads, and they are
Gametes contain number of chromosomes found in somatic cells, and they are symbolized by

- Somatic cells contain chromosomes arranged in homologous pairs, symbolized by
- The number of is constant in individuals of the same species of living organisms.

Complete the following diagram:



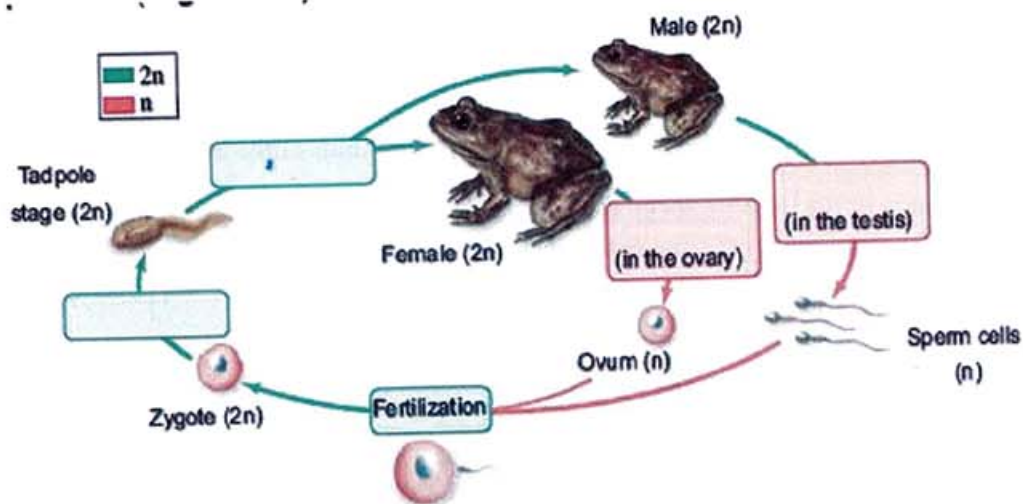
Look at the following figure, then complete the data:



..... Phenomena

Sexual reproduction:

Look at the following figure, then complete the data:



Sexual reproduction is defined as

Using the school textbook and in light of what you have studied, explain the meaning of the following

Somatic cells	.....
Asexual reproduction	.....
Reproductive cells	.....
Mitosis	.....
Meiosis	.....
Genetic crossing over	.....



Homework Performances

Write what is meant by the following statements:

- The basic unit of structure and function in living organisms.
- A vital process in which a living organism produces new individuals of the same species, ensuring its continuity and protection from extinction.

Correct the underlined statements:

- Vegetative reproduction is one of the forms of sexual reproduction.
- Gamete cells contain the full number of chromosomes found in somatic cells.

Give reasons for the following:

- Sexual reproduction leads to variation in the inherited characteristics of the resulting individuals.
- The equality of the number of chromosomes in the somatic cells of different living organisms does not mean genetic similarity.



Weekly Assessment

Write what is meant by the following statements:

- Specialized cells responsible for sexual reproduction in living organisms.
- Reproduction that occurs through two parent individuals of the same species, one male and the other female.
- The fusion of the nucleus of the male gamete (n) with the nucleus of the female gamete (n) to form a zygote that carries the full number of chromosomes (2n).

Correct the underlined statements:

- Mitosis is known as reduction division.
- Asexual reproduction depends on meiosis.
- The first meiotic division is a mitotic division.
- Vegetative reproduction leads to variation in the inherited characteristics of the resulting individuals.
- after the second meiotic division, two cells are produced containing half the original number of chromosomes (n).

Various questions:

- What is meant by a cancerous tumor?
- What is the importance of mitosis in humans?
- What is the importance of meiosis in humans?

Compare between:

- a) Somatic cells and reproductive (germ) cells.
- b) Sexual reproduction and asexual reproduction.

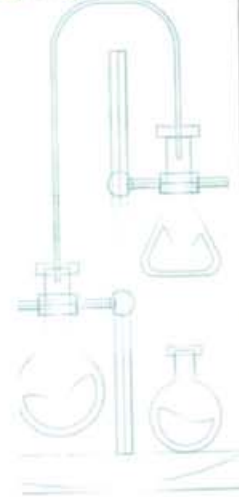
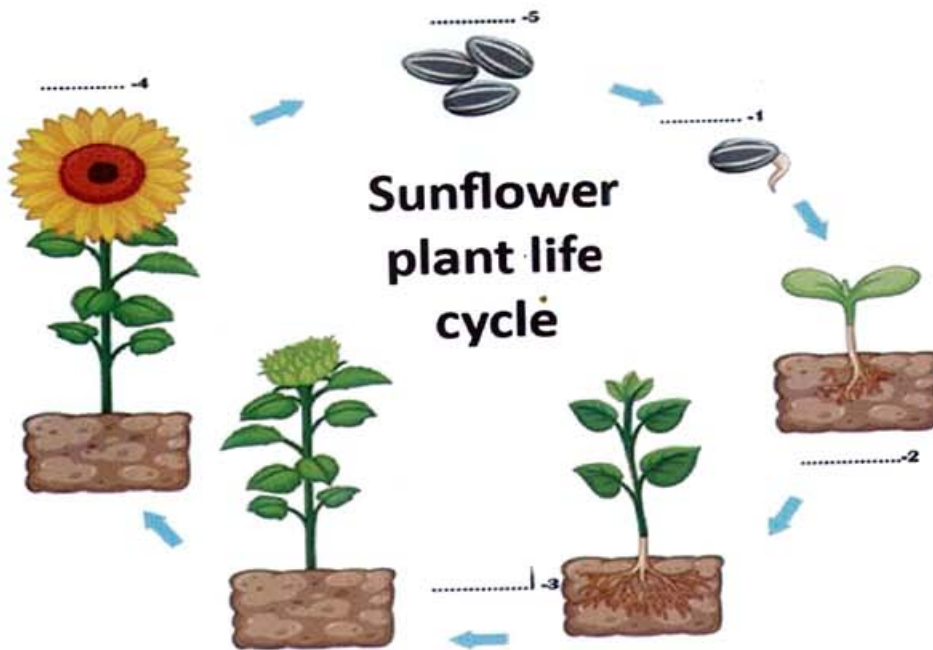


Lesson 2 : Floral Reproduction



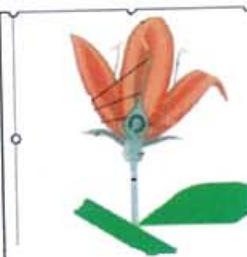
Classroom Performance

Sunflower plant



Origin of the Flower

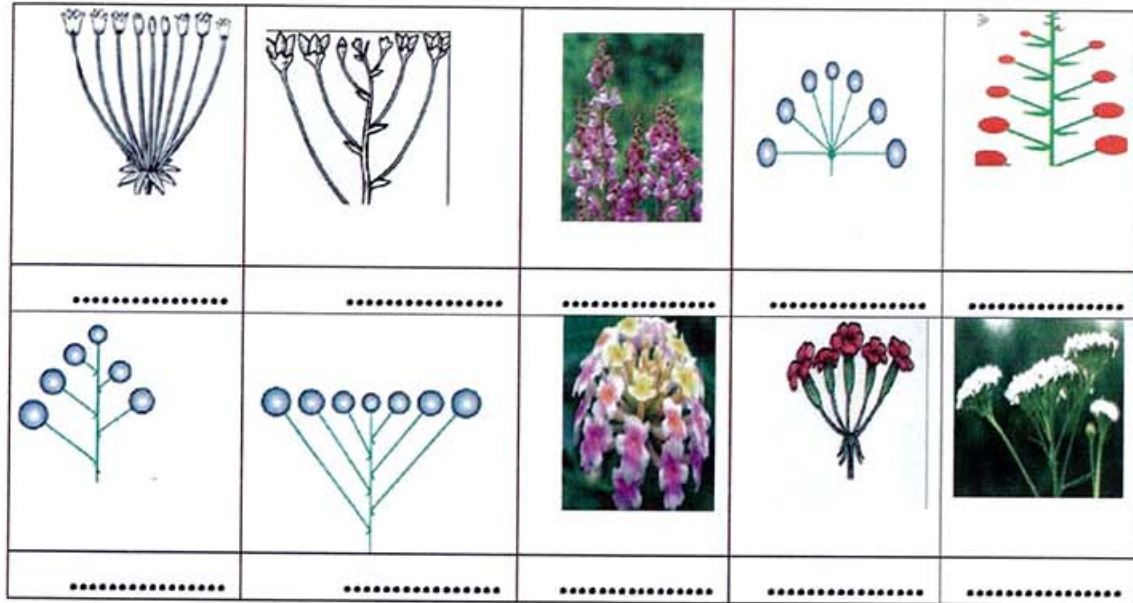
- Observe the following figures and identify the bract on them, then explain what is meant by a bract.



The bract is:

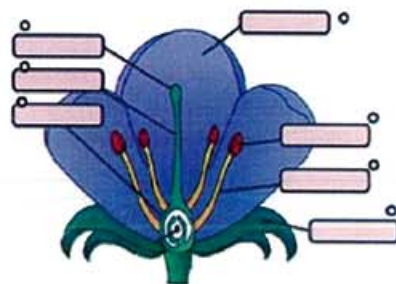
Types of Inflorescences

- Observe the following figures and classify the inflorescences into simple raceme inflorescences, simple corymb inflorescences, and simple umbel inflorescences, then mention examples for each type.



Structure of the Flower

Observe the adjacent figure, then identify the floral whorls on it and complete the labels on the diagram.



Based on your study of the structure of the typical flower, complete the following table:

Floral whorl	Name of the leaf forming it	Main function
Calyx		
Corolla		
Androecium		
Gynoecium		

Study the figures in front of you, then identify the name of the plant and state the difference between them in terms of (petals and sepals).



(2)



(1)

Name of the plant	Sepals	Petals

Observe the following flowers, then determine the sex of each flower and explain the reason:



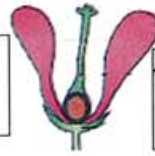
The flower:

.....



The flower:

.....



The flower:

.....

Pollination and Fertilization in Flowers

Based on your study of the types of pollination, determine the type of pollination in each of the following cases:

1. The androecium and gynoecium mature at the same time. (.....)
2. The anthers are far from the stigmas or are at a higher level than them. (.....)
3. All flowers are unisexual. (.....)
4. Flowers remain closed and do not bloom until pollination. (.....)

Means of Pollen Grain Transfer

Compare between insect pollination and wind pollination using the following table:

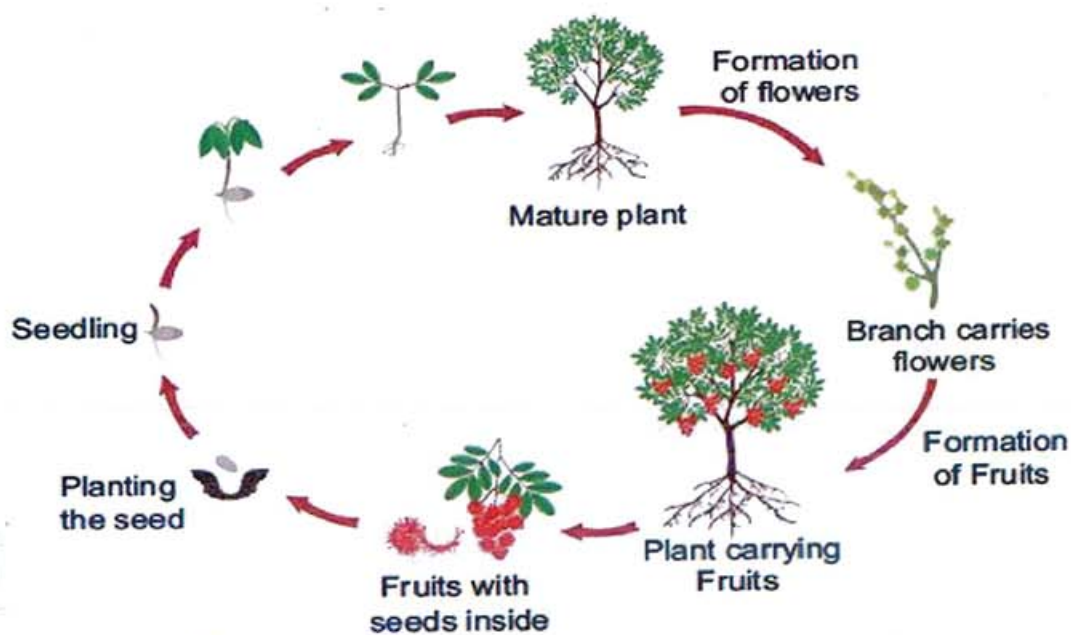
Aspect of comparison	Insect pollination	Wind pollination
Color of petals		
Size of petals		
Scent and nectar		
Anthers		
Pollen grains		
Stigmas		

Fertilization

Determine the steps of fertilization and fruit formation:



Observe the following figure of the life cycle of flowering plants, then identify its four main stages:



Using the school book and in the light of what you have studied, explain the meaning of the following terms:

Flower	.....
Typical flower	.....
Floral envelope	.....
Androecium	.....
Gynoecium	.....
Bisexual flower	.....
Unisexual flower	.....
Pollination	.....
Fertilization	.....



Homework Performances

1- Complete the following:

- After fertilization, the ovary matures and becomes a while the ovules change into
- The floral whorl that protects the internal parts of the flower before its blooming is the
- Examples of unisexual flowers include the plant and the plant

2- Write the scientific term indicated by the following statement:

- The male reproductive organ in the flower, consisting of several stamens.
(.....)

3- Compare between self-pollination and cross-pollination
(in terms of definition and how each occurs)

**Weekly Assessment**

State the scientific reason for each of the following:

1. Petals in many flowers are brightly colored and have a Fragrant scent
2. Anthers hang outside the flowers of some plants that are pollinated by wind.
3. Pollen grains in insect-pollinated plants are sticky or rough.
4. The importance of the floral envelope in flowers such as the *Narcissus* flower.
5. Wind-pollinated plants produce pollen grains in very large numbers.

What happens if:

1. Anthers and stigmas do not mature at the same time?
2. A pollen grain falls on the stigma of a flower of a different species?
3. The gynoecium is removed from a typical flower before it blooms?

Write the scientific term indicated by the following statements:

1. The transfer of pollen grains from the anthers of a flower to the stigmas of another flower on a different plant of the same species.
2. A short stem whose leaves are modified to carry out reproduction in the plant.
3. A cell formed by the fusion of the egg nucleus, containing (2N) chromosomes.

Compare between:

- Pollen grains in wind-pollinated flowers and pollen grains in insect-pollinated flowers.
- Bisexual flowers and unisexual flowers.
- Androecium and gynoecium in terms of structure and function.

Choose the odd word out, then state the relationship between the remaining ones:

- Zucchini – Date palm – Tomato – Maize
- Stigma – Style – Ovary – Filament



Week

(11)

Lesson 1: The Effect of Temperature and Pressure on Climate Change

Date

.../.../...



Classroom Performance

A meteorologist



- The Previous image is from the Egyptian meteorological authority
- Imagine yourself as a meteorologist asked to identify the weather elements in previous image
- Weather elements.....

Study the adjacent picture carefully, then answer the following:

The picture represents a weather station that contains many instruments used to determine the weather:

- What are the names of these instruments?
- What is the function of each one?

Record your answers in the following table:



	Instrument Name	Function or Use
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

- Follow the weather forecast for two weeks during the summer season, and also track the temperature throughout the entire summer season. Then determine the weather and the climate

(You may use the Weather Website website as ema.gov.eg)

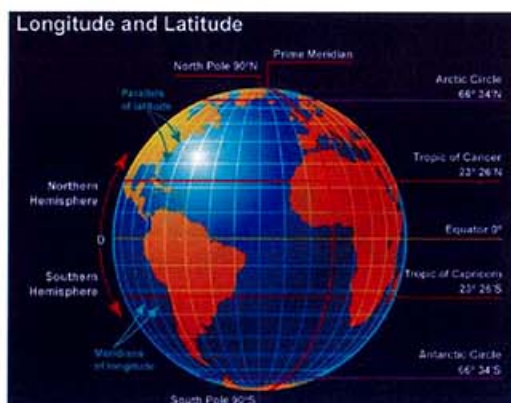
- Based on your observation of the weather and climate, identify the elements of weather and the elements of climate.



- Based on your previous studies, complete the following table:

An animal that lives in a high-temperature environment	A plant that lives in a high-temperature environment.
An animal that lives in a low-temperature environment.	A plant that lives in a low-temperature environment.

- Study the figure in front of you and identify the different thermal zones on the diagram, and explain the reason for their variation.

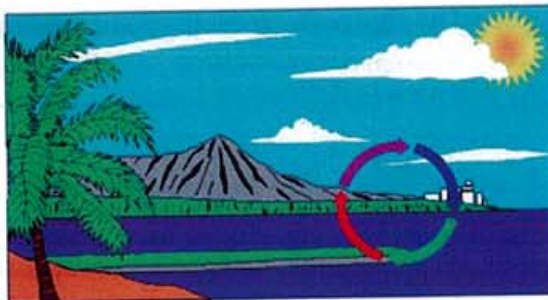


The reason for their variation:

- Based on your study of the world map, identify one country located in each thermal zone.

Country name	Thermal zone

Physical Changes in the Atmosphere



.....

.....

- The previous pictures represent
Write the name of the phenomenon under each picture.

Explain how this phenomenon occurs.....

- Some of your friends went to the Saint Catherine Mountains on a climbing trip. Give a number of important instructions to ensure your friends' safety.



- Based on your previous analysis of the weather forecast, choose one day and determine:

Daily average temperature	Daily temperature range
.....	

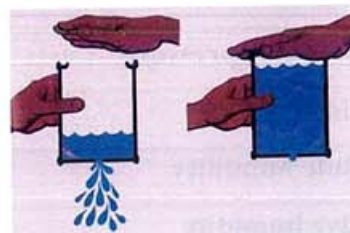
- Why did the scale reading differ in the two cases?



- We conclude from that that:

- Why does the water not fall in the case (1)?

- Why did the water fall in the case (2)?

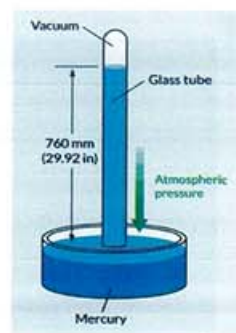
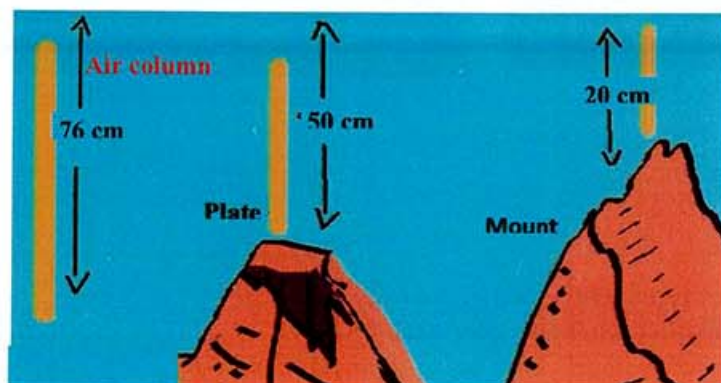


(2)

(1)

- We conclude from that that:

- The figure in front of you is used to measure
which is defined as
- Its unit of measurement is
.....



From the previous figure

- Which has higher atmospheric pressure: the mountain surface or the plateau surface? Explain your answer.
.....
- State the factors that affect atmospheric pressure and explain the relationship between them.
.....
- using the textbook and in light of what you have studied, explain the meaning of the following terms

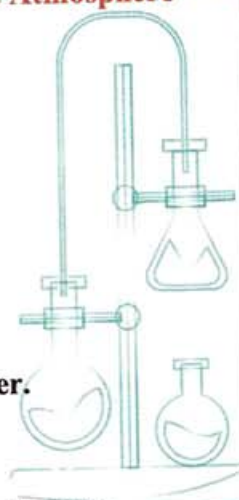
Weather	.....
Climate	.....
Maximum temperature	.....
Minimum temperature	.....
Daily average temperature	.....
Daily temperature range	.....
Atmospheric pressure	.....
Humidity	.....
Absolute humidity	.....
Relative humidity	.....



Homework Performances

State the scientific reason for:

1. The variety of weather and climate elements.
2. The existence of different thermal zones on the Earth's surface.
3. The occurrence of sea breeze.
4. The difference in the daily temperature range from one city to another.
5. The variation of atmospheric pressure from one region to another.
6. The effect of humidity on atmospheric pressure.
7. The decrease in temperature with increasing distance away from the Equator.



What happens if:

1. Increase both of the maximum and minimum temperatures?
2. We move higher above sea level?
3. The specific heat of water differs from that of land at night?

Compare between:

1. Weather and Climate.



Weekly Assessment

State the scientific reason for:

1. Temperature is considered the most important climatic element.
2. Areas close to the Equator are characterized by high temperatures.
3. The occurrence of land breeze.
4. Temperature decreases as we rise above sea level.
5. The daily average temperature differs from one city to another.
6. Atmospheric pressure decreases with increasing altitude above sea level.
7. Temperature affects atmospheric pressure.
8. Temperature is affected by differences in lines of latitude.
9. Temperature is affected near water bodies.
10. The rate of influenza spread increases in winter.

What happens if:

1. We move closer to or farther away from the Equator?
2. Humidity increases (with respect to pressure)?
3. Temperature increases (with respect to pressure)?



Compare between:

1. Daily average temperature and daily temperature range.
2. Land breeze and sea breeze.

Write the scientific term for:

1. The state of the atmosphere at a specific place over a short period of time.
2. The prevailing state of the atmosphere at a specific place over a long period of time.
3. The highest temperature in one day.
4. The lowest temperature in one day.
5. The weight of a column of air with a cross-sectional area of 1 m^2 and a height equal to the height of the atmosphere.
6. The amount of water vapor present in the air.
7. The actual mass of water vapor present in a given volume of atmospheric air.



The Second Monthly Assessment

Q1: Write the scientific term indicated by the following statements:

1. A fixed point on which a rigid rod rests.
2. Levers in which the fulcrum lies between the effort and the load.
3. Levers in which the effort lies between the load and the fulcrum.
4. Levers in which the load lies between the effort and the fulcrum.
5. The distance between the load (resistance) and the fulcrum.
6. Specialized cells responsible for sexual reproduction in living organisms.
7. Reproduction that occurs by two parent individuals of the same species, one male and the other female.
8. The fusion of the nucleus of the male gamete (n) with the nucleus of the female gamete (n) to form a zygote carrying the full number of chromosomes ($2n$).
9. The unit of structure and function in living organisms.
10. A vital process in which a living organism produces new individuals of the same species, ensuring its continuity and protection from extinction.
11. The male reproductive organ in the flower, consisting of several stamens.
12. The transfer of pollen grains from the anthers of one flower to the stigmas of another flower on a different plant of the same species.
13. A short stem whose leaves are modified to carry out reproduction in plants.
14. A cell formed by the fusion of the egg nucleus with the pollen nucleus and containing ($2n$) chromosomes.

Q2: Complete the following statements:

1. Levers make tasks easier by , , and
2. The crowbar is a lever of the class, while the hand broom is a lever of the class.
3. A lever is in equilibrium when the moment of the effort the moment of the load.
4. A machine saves effort when its mechanical advantage is greater than
5. Increasing the length of the effort arm leads to
6. Second-class levers differ from third-class levers in the
7. Examples of levers that increase speed are
8. First-class levers save effort when the is greater than the
9. The effort arm equals the load arm in levers.
10. The most common type of levers is the class.
11. If the applied effort is half the load value and the load arm is 50 cm, then the effort arm equals cm.
12. After fertilization, the ovary develops into a while the ovules develop into
13. The floral whorl that protects the inner parts of the flower before blooming is the
14. Examples of unisexual flowers are the plant and the plant.



Q3: Correct the underlined words:

1. A bottle opener is a first-class lever.
2. One function of levers is decreasing force as in the hand broom.
3. First-class levers differ from second-class levers in the presence of an applied force.
4. A fishing rod is a second-class lever.
5. Vegetative reproduction is a form of sexual reproduction.
6. Gamete cells contain the full number of chromosomes found in somatic cells.
7. Mitosis is known as reduction division.
8. Asexual reproduction depends on meiosis.
9. The first meiotic division is a mitotic division.
10. Vegetative reproduction leads to genetic variation in the resulting individuals.
11. In the second meiotic division, two cells are produced, each having half the original chromosome number (n).

Q4: Give reasons for the following:

1. Second-class levers save effort.
2. Simple machines are of great importance in our lives.
3. Effort and load can be equal only in first-class levers.
4. Third-class levers do not always save effort.
5. A fixed pulley is considered a first-class lever.
6. Sexual reproduction leads to genetic variation among offspring.
7. The equality of chromosome numbers in somatic cells of different organisms does not mean they are genetically identical.
8. Petals in many flowers are brightly colored and fragrant. .
9. Anthers hang outside the flowers of some wind-pollinated plants.
10. Pollen grains in insect-pollinated plants are sticky or rough.
11. The importance of the floral envelope in Narcissus flowers.
12. Wind-pollinated plants produce pollen grains in very large numbers.



**Q5: What happens in the following cases?**

1. Levers were not discovered.
.....
2. The effort arm is longer than the load arm in levers.
.....
3. Anthers and stigmas do not mature at the same time.
.....
4. A pollen grain falls on the stigma of a flower of another species.
.....
5. The gynoecium is removed from a complete flower before it opens.
.....

Q6: Compare between:

1. First-, second-, and third-class levers in terms of:
(definition – example – saving effort)
2. Somatic cells and gonads.
3. Sexual reproduction and Asexual reproduction.
4. Pollen grains in wind-pollinated flowers and pollen grains in insect-pollinated flowers.
5. Bisexual flowers and unisexual flowers.
6. Androecium and gynoecium in terms of structure and function.
7. Self-pollination and cross-pollination (definition and method).

Q7: Mention the importance of each of the following:

1. Lever:
2. Forceps:
3. Crowbar:
4. Mitosis in humans:
5. Meiosis in humans:

Q8: Problems:

1. A first-class lever has an applied effort of 40 N and an effort arm of 5 cm. It acts on a load of 100 N.
 - Calculate the length of the load arm.
 - Does the lever save effort or not?
2. A lever is acted upon by an effort of 30 N with an effort arm of 20 cm, and a load of 20 N with a load arm of 10 cm.
 - Is the lever in equilibrium? Why?
 - If the lever is not in equilibrium, what should be the length of the load arm to achieve equilibrium



صفحة الفيس تعالوا



Lesson 2 : Levers



Classroom Performance

نتعلم صح مع مس عيسى

Since ancient times, man has been inventing machines that help him perform his heavy tasks easily. Take note of the following images and then get to know them using the internet.

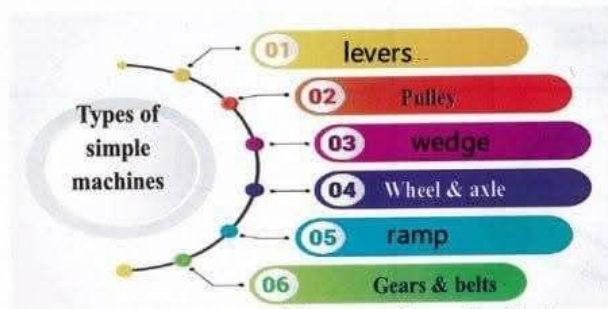
levers - simple machines	Archimedes' screw	Shadoof
Saqia	wheel and axle	Water wheel = saqia
pliers	scissors	tweezers
crowbar	hockey bat	balance
What professions use the previous machines?		

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Simple Machine:

A tool that may have some moving parts and is used to make it easier to perform a task and reduce the exerted effort.



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Complete the following table:

Machine	Type	Its importance
	<u>pully</u>	Change of force direction when lifting or lowering weights
	wedge	change direction of force Abeer Samir Science on YouTube
	<u>ramp</u> inclined plane	save effort

صفحة الفيس تعالوا

نتعلم صح مع مس عبير



	BBQ tongs	 lever	Avoiding the risk of burning
	Hammer Claw	Lever	 increase force
		gears and belt	Transmission and speed change Abeer Samir Science on YouTube

صفحة الفيس تعالوا
نتعلم صح مع مس عبير

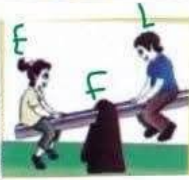
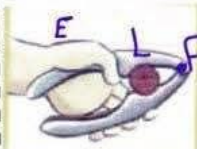


صفحة الفيس تعالوا

Forces and Motion

نتعلم صح مع مس عير

- Select on the following figures (Fulcrum - Effort - Load) and then state the type of lever you belong to, explaining which one saves effort and which does not:

Figure	Type of lever	Figure	Type of lever
	first..... save.....		second..... save.....
	first..... save.....		first..... doesn't save
	first..... doesn't save		second..... save.....
	second..... save		third..... doesn't save

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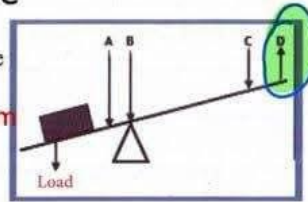
The Law of Levers

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Study the problems in front of you and then answer:

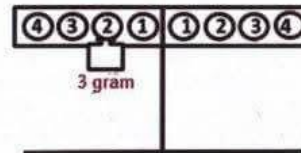
Which figure of the following efforts (A-B-C-D) will raise the load more easily with the explanation

bec. when effort arm is longer than load arm effort will be smaller than resistance



Choose the correct answer:

In order for the lever to be balance, a load of (2 g) is placed at a distance representing the number3...
(1 - 2 - 3 - 4)



Complete:

The following figures represents a lever from

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.....1..... type



.....3..... type



.....2..... type

You have a set of tools to choose from them that achieve the following levers:

third

Hockey bat

second

Garden cart

second

Lemon squeezers

first

Swing

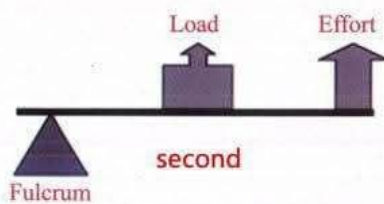
first

Scissors

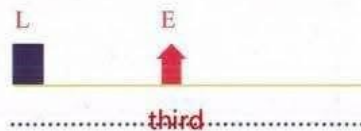
third

third

Candy Mask



second



third

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Forces and Motion

Using the textbook and in the light of what you have studied, clarify what is meant by the following concepts:

Simple Machine	tool used by man to save effort or time or both in performing tasks
Lever	rigid bar (straight or curved) rotates around fixed point (fulcrum) and affected by effort force and resistance force
Fulcrum	fixed point (pivot) where levers rotate around
Effort arm	distance between effort force and fulcrum
Load arm	distance between load and fulcrum
The Law of Levers	... effort force $\times$ its arm = load $\times$ its arm
Moment of effort	product of effort and its arm
Moment of load	product of load and its arm
Mechanical advantage of lever	... load / effort ... or ... effort arm / load arm



Homework Performances

Complete the following:

- 1-The effort arm is equal to the load arm in the first class levers
- 2-The most common type of levers are first class levers.
- 3-If the effort exerted is half the value of the resistance and the load arm is 50 cm then the effort arm is equal to 100 cm.

Correct the underlined words:

- 1-Soda water opener is a type first class lever . second
- 2-One of the functions of the levers is to reduce the effort as in manual broom. transmit
- 3-The first type of levers differ from the second type of levers in the presence of an effective effort. fulcrum
- 4-The fishing rod is one of the second type of levers. third

Mention the importance of each of the following:

- 1-lever : increase force- increase speed - avoid danger - save time and effort
- 2-Tweezers : accuracy
- 3-Crowbar : save effort- use small force to move heavy load



Weekly Assessment

Write the scientific term:

- 1-A fixed point on which a rigid bar rests. fulcrum
- 2-Levers where the fulcrum between effort and load . first class levers
- 3-Levers where the effort is between the load and the fulcrum point. third
- 4-Levers where the load is between the effort and the fulcrum point. second
- 5-The distance between the weight representing the load and the fulcrum point. load arm - resistance arm

Complete the following statements:

- 1-Levers make tasks easier by save time-effort and increase force - increase speed
- 2-The crowbar is a first class lever, while the manual broom is a third class lever
- 3-The lever is in a state of equilibrium when the moment of the effort and the moment of load are equal.....

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4-A machine saves effort when its mechanical advantage value is greater than **one**

5-Increasing the length of the effort arm leads to **save effort** (force is smaller than load

6-Second class levers are different from third class levers in **presence of load in the middle** -save effort

7-Examples of levers that increase speed **hockey bat - tennis racket**

8-First class levers save effort when **effort arm** longer than **load arm**

What happens in the following cases

1 - The levers were not detected. **can't make tasks easier**

2 - If the effort arm is longer than the load arm in the levers. **lever saves effort**

Give Reasons for the following:

1 - Second class levers always save effort . **1- bec, effort arm is longer then resistance arm**

2 - Simple machines are very important in our lives. **2- to save time -effort in performing tasks**

3. The effort and load can be equal to the first type of levers only. **3- bec sometimes effort arm equals load arm**

4 - Third class levers do not always save effort. **4- bec effort arm is shorter than load arm**

5- Fixed pulley is a type of first-class lever. **5- bec fulcrum is in the middle between effort force and load**

Compare between:

The first, second and third class of levers in terms of: (definition - mentioning an example of each type - saving effort).

first - levers that have F in the middle between E and L -seesaw - doesn't save effort

second - levers that have L in the middle between E and F - wheel barrow - save effort

thirds - levers that have E in the middle between F and L - manual broom - doesn't save effort

Problem:

1-A type of first class lever had a force of 40 N and a effort arm of 5 cm. It

affected a load of 100 N. **Effort force x its arm = resistance force x its arm= $40 \times 5 = 100 \times \text{its arm} = 40 \times 5 / 100 = 2 \text{ cm}$**

Calculate the length of the load arm? Does the lever save effort or not? **save effort**

2-Imagine trying to break a hard hazelnut shell and you have to choose

between two similar crushers, one of which has a longer hand than the other.

Determine: What kind of levers is the nutcracker? And how does it work? **second class lever - increase force**

Which two crushers will you use? **longer hand**

Where do you put the hazelnut for the arms? **away between effort force and fulcrum**

3-Imagine trying to lift a huge rock using a metal pole as a lever and a small stone as a fulcrum. (Explain your answer with a drawing).

1 - What type of levers will be used? **first - crowbar**

2 - Will you choose a long or short column to get the job done? **long**

3 - Where will you put the small stone in relation to the huge rock? **in middle near from load**

4-A lever affected by a force of 30 N, its length 20 cm, and a load of 20 N and a load arm length of 10 cm.

effort x its arm = $30 \times 20 = 600$ --- load x its arm = $20 \times 10 = 200$

1 - Is this lever balanced? and why? **unbalanced bec moment of force isn't equal moment of load**

2 - If the lever is unbalanced, what is the length of the load arm that achieves balance?

5- Using the following table, **find the value of x, y and state the law of levers.** **effort x its arm / load = $30 \times 20 / 20 = 30 \text{ cm}$**

Effort (Newton)	Effort Arm (cm)	Load (Newton)	Load Arm (cm)
X	5	1	10 $1 \times 10 / 5 = 2 \text{ N}$
4	5	2	Y $4 \times 5 / 2 = 10 \text{ cm}$

6- **the corresponding figure:**

On the following diagram, a fulcrum is placed in the middle of a lever. A load of 60 N is hanged, to balance the lever?

effort x its arm = load x its arm

$$20 \times 60 / 30 = 40 \text{ cm}$$

صفحة الفيس تعالوا
نتعلم صح مع مس عبير

صفحة الفيس تعالوا

Unit three

Reproduction in Living Organisms

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Classroom Performance

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Origin of life

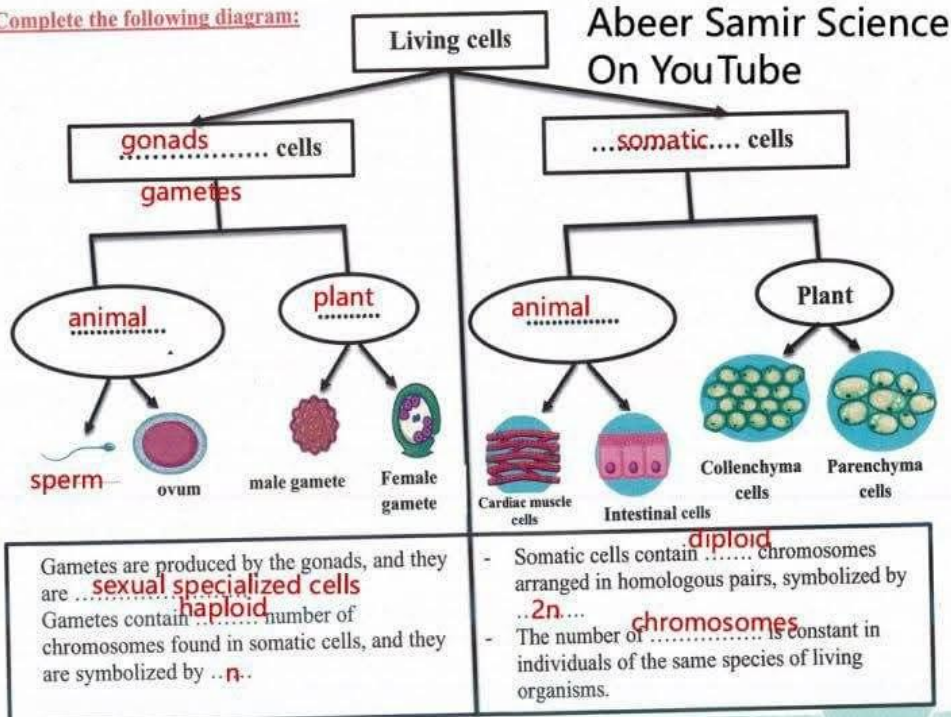
Remember that there are two types of cells cell found in and
reproductive cell found ingonads.....

Living organisms share in common characteristics such as nutrition, respiration, ...sensation and and reproduction, and others.
movement

Completed Table

Living organism	Number of chromosomes in			
	Somatic cell (2n)	Ovum (n)	Sperm (n)	Pollen grain (n)
Human	46	...23...	23.....	—
Gorilla	...48...	...24...	24	—
Pea plant	14	...7.....	—	...7.....
Wheat	...42.....	21	—	...21.....
Fruit fly	8	...4.....	...4.....	—

Complete the following diagram:

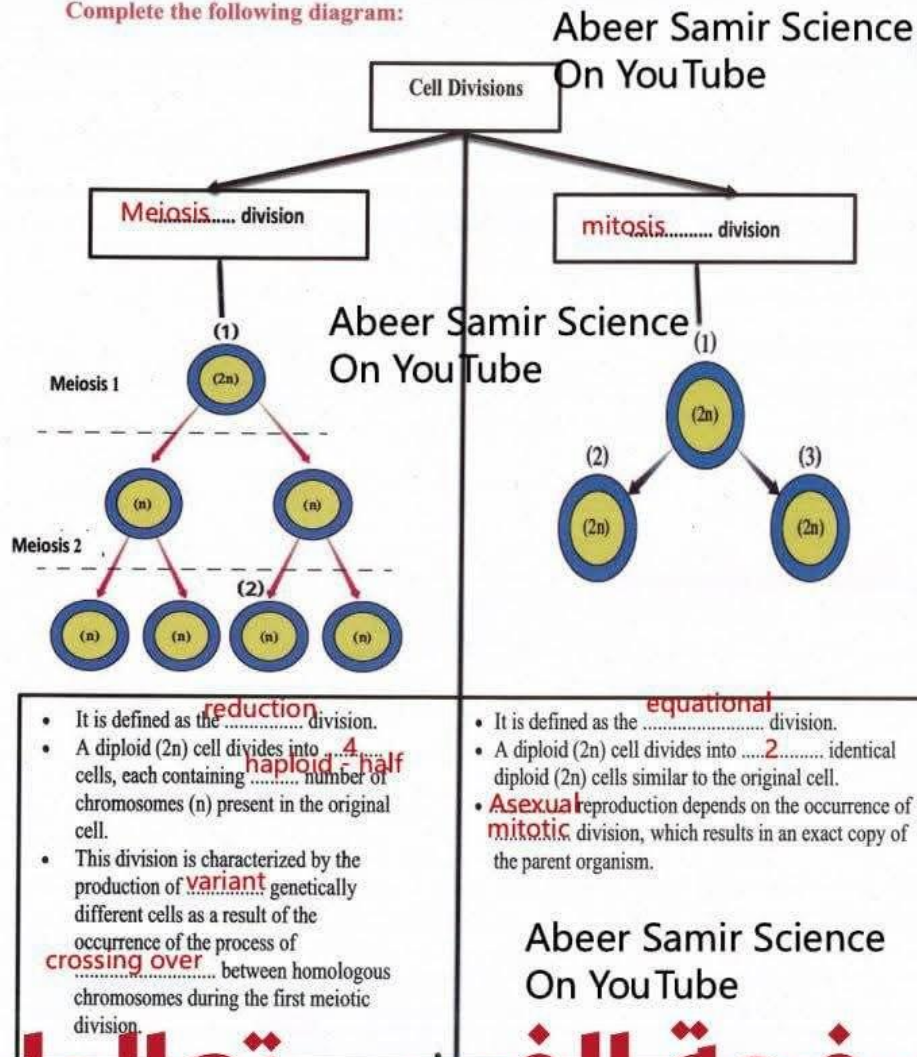


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Complete the following diagram:



صفحة الفيس تعالوا

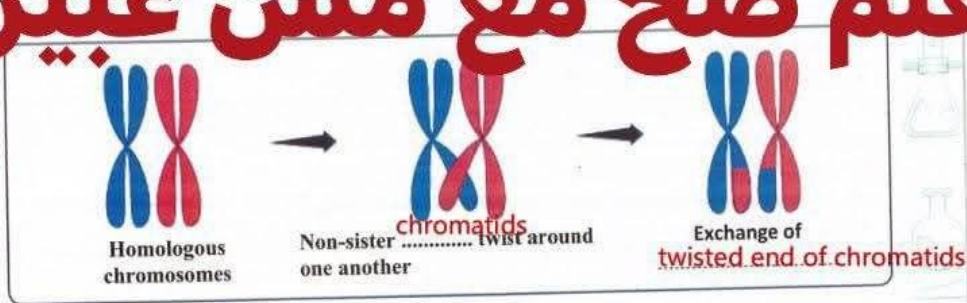
نتعلم صح مع مس عير

صفحة الفيس تعالوا

Reproduction in Living Organisms

نتعلم صح مع مس عبير

Look at the following figure, then complete the data:

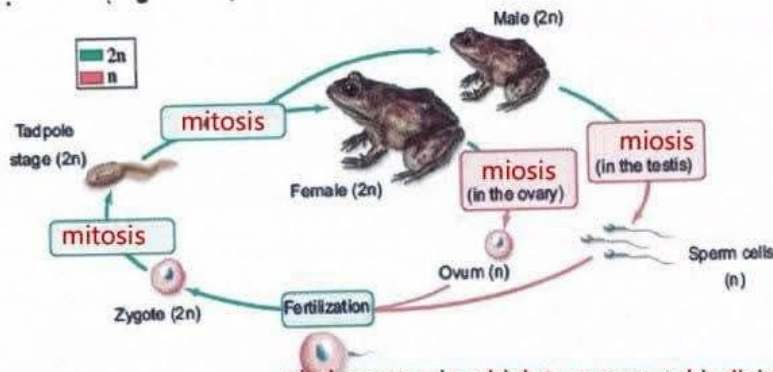


crossing over Phenomena

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Sexual reproduction:

Look at the following figure, then complete the data:



vital process in which two parental individuals of same species one is male and one is female participate to produce new individuals carry combination of genetic traits of both parents

Sexual reproduction is defined as

Using the school textbook and in light of what you have studied, explain the meaning of the following

Somatic cells	All cells of living organisms except reproductive cells
Asexual reproduction	vital process in which parental individuals produces new individuals completely identical in genetic traits
Reproductive cells	specialized cells responsible for sexual reproduction in living organisms
Mitosis	type of cell division occurs in somatic cells which each diploid somatic cell $2n$ divides into two identical cells $2n$
Meiosis	type of division occurs in gonad cells which each diploid cell $2n$ divides into 4 haploid cells
Genetic crossing over	

A phenomenon occurs in meiosis 1 where exchange in genetic materials leads to diversity of genetic traits

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Second Preparatory

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Homework Performances

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Write what is meant by the following statements:

- The basic unit of structure and function in living organisms. **cell**
- A vital process in which a living organism produces new individuals of the same species, ensuring its continuity and protection from extinction. **reproduction**

Correct the underlined statements:

- Vegetative reproduction is one of the forms of sexual reproduction. **Asexual**
- Gamete cells contain the full number of chromosomes found in somatic cells. **half**

Give reasons for the following:

- Sexual reproduction leads to variation in the inherited characteristics of the resulting individuals. **Due to crossing over phenomenon in meiosis 1 during gametes formation where genetic traits exchange**
- The equality of the number of chromosomes in the somatic cells of different living organisms does not mean genetic similarity. **bec different species carry different genetic traits**



Weekly Assessment

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Write what is meant by the following statements:

- Specialized cells responsible for sexual reproduction in living organisms. **gametes**
- Reproduction that occurs through two parent individuals of the same species, one male and the other female. **sexual**
- The fusion of the nucleus of the male gamete (n) with the nucleus of the female gamete (n) to form a zygote that carries the full number of chromosomes (2n). **fertilization**

Correct the underlined statements:

- Mitosis is known as reduction division. **equational**
- Asexual reproduction depends on meiosis. **mitosis**
- The first meiotic division is a mitotic division. **second**
- Vegetative reproduction leads to variation in the inherited characteristics of the resulting individuals. **sexual**
- after the second meiotic division, two cells are produced containing half the original number of chromosomes (n). **4**

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On YouTubeVarious questions: **abnormal and repeated cell growth formed when somatic cell undergoes uncontrolled mitotic division**

- What is meant by a cancerous tumor? **body growth -healing wounds - repair damage tissues**
- What is the importance of mitosis in humans? **production gametes in gonads - reduce chromosomes number to half in gametes to ensure restoring original number of chromosomes of the species after mating so chromosomes count remains constant**
- What is the importance of meiosis in humans?

Compare between:

- Somatic cells and reproductive (germ) cells.
- Sexual reproduction and asexual reproduction.

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صفحة الفيس تعالوا

Second term

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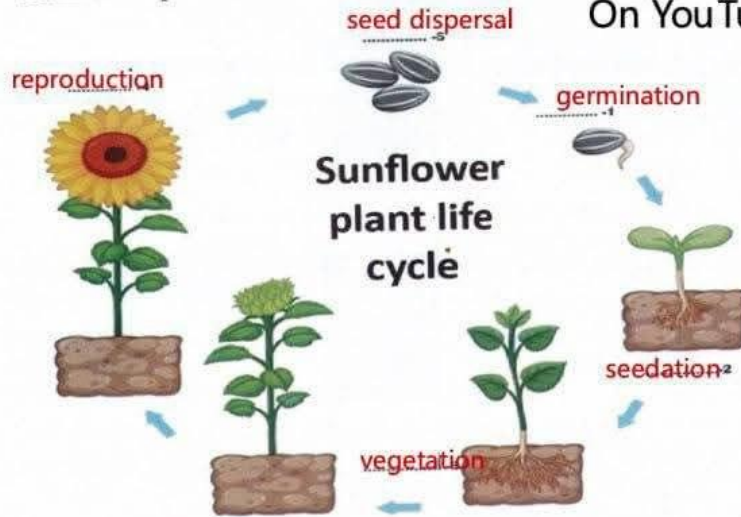
صفحة الفيس تعالوا

Reproduction in Living Organisms

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Sunflower plant

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Origin of the Flower

- Observe the following figures and identify the bract on them, then explain what is meant by a bract.



The bract is: leaf which vegetative bud emerges from its axil and develop into flower

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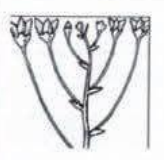
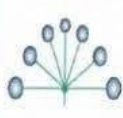
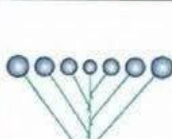
Second Preparatory

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Types of Inflorescences

- Observe the following figures and classify the inflorescences into simple raceme inflorescences, simple corymb inflorescences, and simple umbel inflorescences, then mention examples for each type.

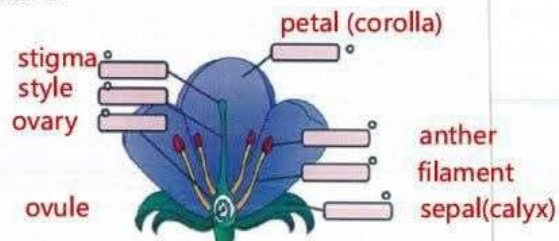
				
umbel.....	corymb.....	raceme.....	umbel.....	raceme.....
				
raceme.....	corymb.....	umbel.....	umbel.....	corymb.....

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Structure of the Flower

Observe the adjacent figure, then identify the floral whorls on it and complete the labels on the diagram.

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صفحة الفيس تعالوا

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صفحة الفيس تعالوا

Reproduction in Living Organisms

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Floral whorl	Name of the leaf forming it	Main function
Calyx	sepal	protect inner parts especially before blooming
Corolla	petal	protect productive organs and attract insect
Androecium	stamen	produce pollen grains
Gynoecium	carpel - pistil	produce ovules

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Study the figures in front of you, then identify the name of the plant and state the difference between them in terms of (petals and sepals).



(2)



(1)

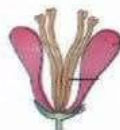
Name of the plant	Sepals	Petals
Egyptian rose	separate	separate
petunia	fused	fused

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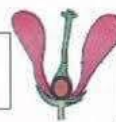
Observe the following flowers, then determine the sex of each flower and explain the reason:



The flower:
bisexual



The flower:
..male



The flower:
..female

Pollination and Fertilization in Flowers

Based on your study of the types of pollination, determine the type of pollination in each of the following cases:

1. The androecium and gynoecium mature at the same time. (...self pollination...)
2. The anthers are far from the stigmas or are at a higher level than them. (...cross pollination.....)
3. All flowers are unisexual. (...cross pollination.....)
4. Flowers remain closed and do not bloom until pollination. (...self pollination)

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Second Preparatory

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Means of Pollen Grain Transfer

Compare between insect pollination and wind pollination using the following table:

Aspect of comparison	Insect pollination	Wind pollination
Color of petals	bright colourful	dull
Size of petals	large	small
Scent and nectar	scented	scentless
Anthers	inside flower	hanged outside flower
Pollen grains	sticky - rough	light - dry - smooth
Stigmas	sticky	sticky - feathry

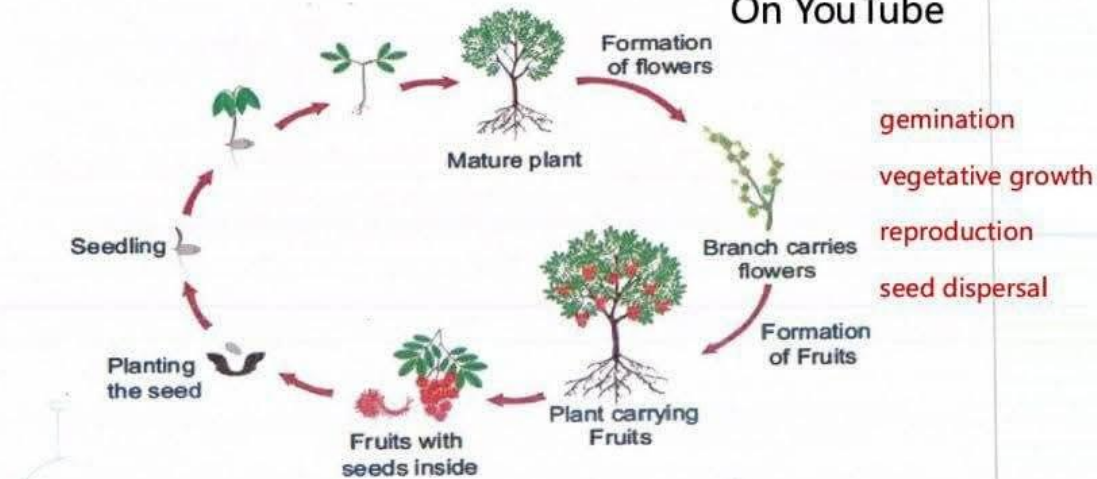
Fertilization

Determine the steps of fertilization and fruit formation:



Observe the following figure of the life cycle of flowering plants, then identify its four main stages:

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صفحة الفيس تعالوا

Reproduction in Living Organisms

Abeer Samir Science

On YouTube

Using the school book and in the light of what you have studied explain the meaning of the following terms:

نتعلم صح مع مس عيبر

Flower	reproductive organ in plant - stem whose leaves modified into flower
Typical flower	flower that has 4 floral whorls - contains both male - female organs
Floral envelope	calyx and corolla together
Androecium	male organ in the flower
Gynoecium	female organ in the flower
Bisexual flower	flower that has 4 floral whorls - contains both male - female organs
Unisexual flower	flower that has 3 floral whorls - contains male or female organ only
Pollination	transfer of pollen grain from anther to stigma
Fertilization	fusion of male cell nucleus and female cell nucleus to form zygote



Homework Performances

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1- Complete the following:

- After fertilization, the ovary matures and becomes a ..**fruit**..... while the ovules change into ..**seeds**.....
- The floral whorl that protects the internal parts of the flower before its blooming is the ..**calyx**.....
- Examples of unisexual flowers include the plant **palm** and the plant **corn**

2- Write the scientific term indicated by the following statement:

- The male reproductive organ in the flower, consisting of several stamens. (**Androecium**.....)

3- Compare between self-pollination and cross-pollination (in terms of definition and how each occurs)

self: process of transfer of pollen grains from anther of flower to stigma of another flower in same plant

cross:

process of transfer of pollen grains from anther of flower in a plant to stigma of another flower in another plant of same species

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1-to attract insects to help in pollination

2-to facilitate their opening by wind

3-to stick with insect body

4- protect reproductive organs in flower - attract insect to help in pollination

5- to compensate what lost in air

Discover and Learn



Weekly Assessment

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State the scientific reason for each of the following:

1. Petals in many flowers are brightly colored and have a Fragrant scent
2. Anthers hang outside the flowers of some plants that are pollinated by wind.
3. Pollen grains in insect-pollinated plants are sticky or rough.
4. The importance of the floral envelope in flowers such as the *Narcissus* flower.
5. Wind-pollinated plants produce pollen grains in very large numbers.

What happens if: 1& 3- cross pollination occurs - 2- fertilization won't occur

1. Anthers and stigmas do not mature at the same time?
2. A pollen grain falls on the stigma of a flower of a different species?
3. The gynoecium is removed from a typical flower before it blooms?

Write the scientific term indicated by the following statements:

1. The transfer of pollen grains from the anthers of a flower to the stigmas of another flower on a different plant of the same species. **cross polination**
2. A short stem whose leaves are modified to carry out reproduction in the plant. **flower**
3. A cell formed by the fusion of the egg nucleus, containing (2N) chromosomes. **zygote**

Compare between:

- Pollen grains in wind-pollinated flowers and pollen grains in insect-pollinated flowers. **dry - smooth - light (wind) ---- (insect) rough or sticky**
contains 4 floral whorls (both male and female organ - unisexual contains 3 floral whorl male or female only)
- Bisexual flowers and unisexual flowers.
- Androecium and gynoecium in terms of structure and function.
stamen (produce pollen grain) carpel (produce ovule)

Choose the odd word out, then state the relationship between the remaining ones:

- Zucchini – Date palm – **Tomato** – Maize **unisexual**
- Stigma – Style – Ovary – **Filament** **carpel structure (female organ in flower)**

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صفحة الفيس تعالوا

نتعلم صح مع مس عبير

صفحة الفيس تعالوا

Unit Four

Physical Changes in the Atmosphere

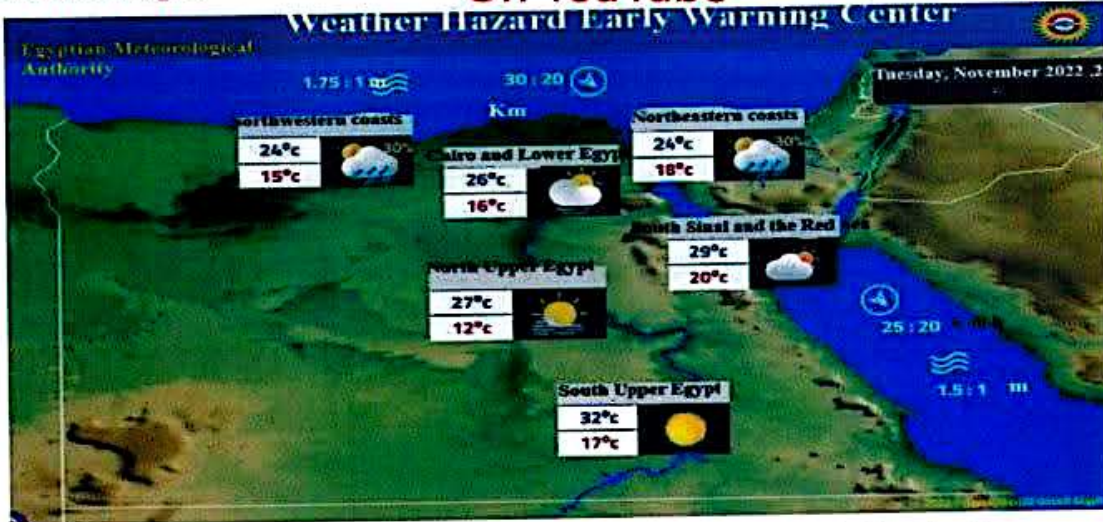
نتعلم صح مع مس عبر

Classroom Performance

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A meteorologist

On YouTube



- The Previous image is from the Egyptian meteorological authority
- Imagine yourself as a meteorologist asked to identify the weather elements in previous image
- Weather elements.....temperature - solar radiation - wind - atmospheric pressure - humidity - precipitation - condensation

Study the adjacent picture carefully, then answer the following:
The picture represents a weather station that contains many instruments used to determine the weather:

- What are the names of these instruments?
- What is the function of each one?

Record your answers in the following table:



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	Instrument Name	Function or Use
1	Thermometer	measure temperature
2	barometer	atmospheric pressure
3	Anemometer	wind speed
4	rain guage	amount of rain
5	weather radar	track thunder storm and hurricane - speed of rain
6	Hygrometer	humidity
7	satallite	image weather elements
8	meteroscope	predict weather in upper layer
9		
10		

Second Preparatory

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صفحة الفيس تعالوا

Unit 4

Discover and Learn

نتعلم صح مع مس عير

weather: atmospheric conditions over certain area for short period of time

climate: atmospheric conditions for long period of time

- Based on your observation of the weather and climate, identify the elements of weather and the elements of climate.

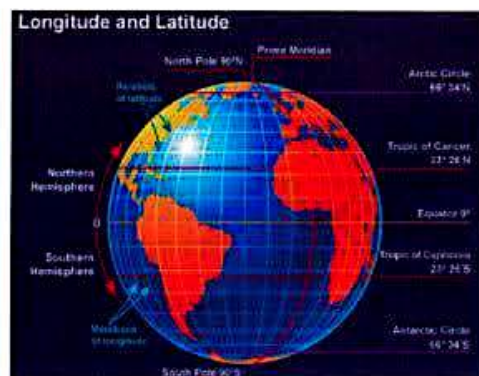
temperature - solar radiation - wind - atmospheric pressure - humidity - precipitation - condensation

- Based on your previous studies, complete the following table:

An animal that lives in a high-temperature environment caracal	A plant that lives in a high-temperature environment. palm tree
An animal that lives in a low-temperature environment. polar bear	A plant that lives in a low-temperature environment. pine tree

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- Study the figure in front of you and identify the different thermal zones on the diagram, and explain the reason for their variation.



The reason for their variation:
difference in inclination angle of sunrays

- Based on your study of the world map, identify one country located in each thermal zone.

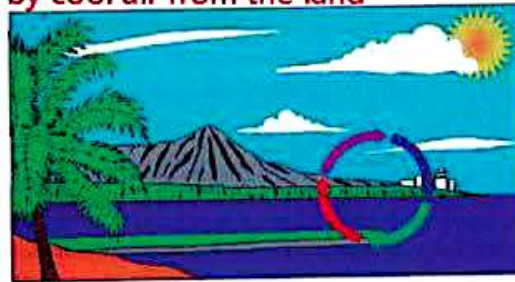
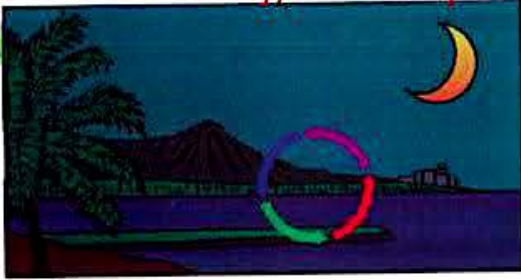
Country name	Thermal zone
Sudan	hot zone
Egypt	temperate
Russia	cold thermal zone

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Second term

specific heat of water is more than land so it heats up and cool down slower than land -- The air above the land during the daytime is hotter than the air above the sea. The rising of the hot air above the land (due to its low density) and it is replaced by cool air from the sea. The air above the sea at night is warmer than the air above the land. The rising of the warm air above the sea (due to its low density) and it is replaced by cool air from the land.

Physical Changes in the Atmosphere



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land breeze

sea breeze

- The previous pictures represent land and sea breeze
Write the name of the phenomenon under each picture.

Explain how the temperature changes.....

تعالوا نتعلم صح مع مس عبيير

- Some of your friends went to the Saint Catherine Mountains on a climbing trip. Give a number of important instructions to ensure your friends' safety.

heavy clothes - oxygen cylinder



- Based on your previous analysis of the weather forecast, choose one day and determine:

Daily average temperature	Daily temperature range
	difference between maximum and minimum temp.

The arithmetic mean of the maximum and minimum temperatures for one day

- Why did the scale reading differ in the two cases?

due to difference in amount of air inside ball

- We conclude from that that:

Air has mass - weight



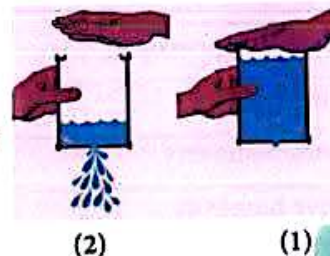
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Why does the water not fall in the case (1)?
bec atmospheric pressure of air upward is more than water pressure

- Why did the water fall in the case (2)?

bec pressure inside cup is more than outside

- We conclude from that that:
atmospheric air has pressure



Second Preparatory

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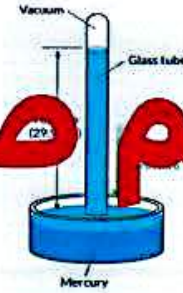
صفحة الفيس تعالوا

- The figure in front of you is used to measure ..atmospheric pressure

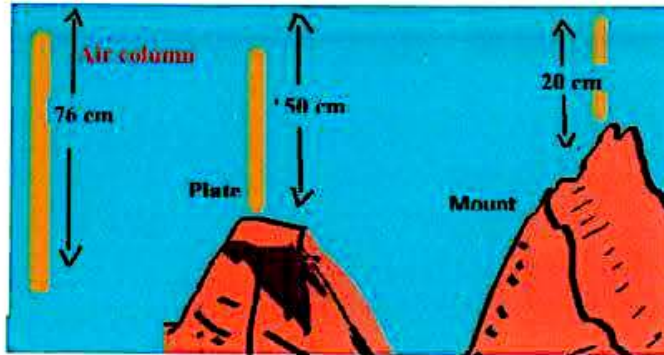
which is defined asMercury barometer.....

Its unit of measurement is

mm.Hg



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From the previous figure

- Which has higher atmospheric pressure: the mountain surface or the plateau surface? Explain your answer.
.....plateau surface as altitude increases pressure decreases.....
- State the factors that affect atmospheric pressure and explain the relationship between them.
.....Altitude - temperature - humidity (inverse relation).....
- using the textbook and in light of what you have studied, explain the meaning of the following terms

Weather	overall instantaneous condition of the atmosphere at certain place and time.
Climate	atmospheric condition in a certain place over a long period of time
Maximum temperature	highest temperature in one day
Minimum temperature	lowest temperature in one day
Daily average temperature	arithmetic mean of the maximum and minimum temperatures for one day
Daily temperature range	difference between maximum and minimum temp. for one day
Atmospheric pressure	weight of a column of air with a cross-sectional area of 1m ² and a height extending to the top of the atmosphere
Humidity	Amount of water vapor in air
Absolute humidity	actual mass of water vapour in certain volume of atmospheric air
Relative humidity	percentage of the actual amount of water vapour present in a certain volume of air (absolute humidity) to the maximum amount of water vapour that the same volume of air can hold at the same temperature (maximum capacity).

- 1- to measure air conditions and predict weather and climate
- 2- due to difference in inclination angle of sunrays
- 3- due to difference in specific heat of water and land The air above the land during the daytime is hotter than the air above the sea. The rising of the hot air above the land (due to its low density) and it is replaced by cool air from the sea

Physical Changes in the Atmosphere

4- due to difference in max and min temperature from city to another according to height above sea level - latitude - presence of water bodies



Homework Performances

5- bec it is affected by temp . humidity - height above sea level

State the scientific reason for: 6- bec when humidity increases pressure decreases

7- due to increase inclination angle of sunrays

1. The variety of weather and climate elements.
2. The existence of different thermal zones on the Earth's surface.
3. The occurrence of sea breeze.
4. The difference in the daily temperature range from one city to another.
5. The variation of atmospheric pressure from one region to another.
6. The effect of humidity on atmospheric pressure.
7. The decrease in temperature with increasing distance away from the Equator.

if maximum and minimum increase by the SAME amount Daily range stays the same (no change)

if minimum temperature increases MORE than maximum Daily range decreases

if maximum temperature increases MORE than minimum Daily range increases

What happens if:

1. Increase both of the maximum and minimum temperatures?
2. We move higher above sea level? temp . pressure decrease
3. The specific heat of water differs from that of land at night? land breeze occurs

Compare between:

1. Weather and Climate.

weather: overall instantaneous condition of the atmosphere at certain place and time.

climate: atmospheric condition in a certain place over a long period of time



Weekly Assessment

1- bec it affect human life and distribution of plants and animals on different areas

State the scientific reason for: 2- bec sun rays fall perpendicular on this area

3- bec specific heat of water is more than land The air above the sea at night is warmer than the air above the land The rising of the warm air above the sea (due to its low density) and it is replaced by cool air from the land

1. Temperature is considered the most important climatic element.

2. Areas close to the Equator are characterized by high temperatures.

3. The occurrence of land breeze.

4. Temperature decreases as we rise above sea level.

5. The daily average temperature differs from one city to another.

6. Atmospheric pressure decreases with increasing altitude above sea level.

7. Temperature affects atmospheric pressure.

8. Temperature is affected by differences in lines of latitude.

9. Temperature is affected near water bodies.

10. The rate of influenza spread increases in winter.

9- due to difference in specific heat between land and water

10- Due to low humidity of cold air

causes rapid evaporation of respiratory droplets carrying viruses allow them to remain suspended in air for long time

What happens if:

1. We move closer to or farther away from the Equator?
2. Humidity increases (with respect to pressure)?
3. Temperature increases (with respect to pressure)?

1- temperature - pressure increase near equator and decrease away from it

2- decreases

3- decreases

Second Preparatory

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مس عير سمير

صفحة الفيس تعالوا

1. Daily average temperature and daily temperature range.
2. Land breeze and sea breeze.

Write the scientific term for:

نتعلم صح مع مس عير

1. The state of the atmosphere at a specific place over a short period of time. **weather**
2. The prevailing state of the atmosphere at a specific place over a long period of time. **climate**
3. The highest temperature in one day. **maximum temp**
4. The lowest temperature in one day. **minimum temp**
5. The weight of a column of air with a cross-sectional area of 1 m^2 and a height equal to the height of the atmosphere. **atmospheric pressure**
6. The amount of water vapor present in the air. **humidity**
7. The actual mass of water vapor present in a given volume of atmospheric air. **absolute humidity**



The Second Monthly Assessment

Q1: Write the scientific term indicated by the following statements:

1. A fixed point on which a rigid rod rests. **fulcrum**
2. Levers in which the fulcrum lies between the effort and the load. **first class levers**
3. Levers in which the effort lies between the load and the fulcrum. **third class levers**
4. Levers in which the load lies between the effort and the fulcrum. **second class levers**
5. The distance between the load (resistance) and the fulcrum. **load arm**
6. Specialized cells responsible for sexual reproduction in living organisms. **gamete**
7. Reproduction that occurs by two parent individuals of the same species, one male and the other female. **sexual reproduction**
8. The fusion of the nucleus of the male gamete (n) with the nucleus of the female gamete (n) to form a zygote carrying the full number of chromosomes (2n). **fertilization**
9. The unit of structure and function in living organisms. **cell**
10. A vital process in which a living organism produces new individuals of the same species, ensuring its continuity and protection from extinction. **reproduction**
11. The male reproductive organ in the flower, consisting of several stamens. **androecium**
12. The transfer of pollen grains from the anthers of one flower to the stigmas of another flower on a different plant of the same species. **cross polination**
13. A short stem whose leaves are modified to carry out reproduction in plants. **flower**
14. A cell formed by the fusion of the egg nucleus with the pollen nucleus and containing (2n) chromosomes. **zygote**

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first class levers

third class levers

second class levers

load arm

gamete

sexual reproduction

fertilization

cell

reproduction

androecium

cross polination

flower

zygote



صفحة الفيس تعالوا

On YouTube

second term

نتعلم صح مع مس عبير

صفحة الفيس تعالوا نتعلم صح مع

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Physical Changes in the Atmosphere

مس عبير

Q2: Complete the following statements:

1. Levers make tasks easier by , , and
increase force speed - distance - avoid danger
2. The crowbar is a lever of the first class, while the hand broom is a lever of the third class.
3. A lever is in equilibrium when the moment of the effort equal the moment of the load.
4. A machine saves effort when its mechanical advantage is greater than 1.
5. Increasing the length of the effort arm leads to save effort.
6. Second-class levers differ from third-class levers in the position of load - save effort.
7. Examples of levers that increase speed are hockey bat.
8. First-class levers save effort when the E arm is greater than the load arm.
9. The effort arm equals the load arm in first levers.
10. The most common type of levers is the first class.
11. If the applied effort is half the load value and the load arm is 50 cm, then the effort arm equals 100 cm.
 $1 \times 50 = 2 \times 50$
12. After fertilization, the ovary develops into a fruit while the ovules develop into seeds.
13. The floral whorl that protects the inner parts of the flower before blooming is the calyx.
14. Examples of unisexual flowers are the palm plant and the corn plant.

Q3: Correct the underlined words:

1. A bottle opener is a first-class lever. second
2. One function of levers is decreasing force as in the hand broom. increase
3. First-class levers differ from second-class levers in the presence of an applied force. fulcrum
4. A fishing rod is a second-class lever. third
5. Vegetative reproduction is a form of sexual reproduction. asexual
6. Gamete cells contain the full number of chromosomes found in somatic cells. half
7. Mitosis is known as reduction division. equational
8. Asexual reproduction depends on meiosis. mitosis
9. The first meiotic division is a mitotic division. second
10. Vegetative reproduction leads to genetic variation in the resulting individuals. sexual
11. In the second meiotic division, two cells are produced, each having half the original chromosome number (n). 4

Q4: Give reasons for the following:

1. Second-class levers save effort. bec effort arm is longer than load arm
2. Simple machines are of great importance in our lives. bec they help us make tasks easily
3. Effort and load can be equal only in first-class levers. bec effort arm sometimes = load arm in 1st class
4. Third-class levers do not always save effort. bec effort arm is shorter than load arm
5. A fixed pulley is considered a first-class lever. bec fulcrum is in the middle between E and L
6. Sexual reproduction leads to genetic variation among offspring due to crossing over phenomenon
7. The equality of chromosome numbers in somatic cells of different organisms does not mean they are genetically identical bec they carry different genetic traits (information)
8. Petals in many flowers are brightly colored and fragrant. to attract insects to help in pollination
9. Anthers hang outside the flowers of some wind-pollinated plants. to opened easily by wind
10. Pollen grains in insect-pollinated plants are sticky or rough to stick with insect body
11. The importance of the floral envelope in Narcissus flowers. to protect reproductive organs and attract insects
12. Wind-pollinated plants produce pollen grains in very large numbers. to compensate what lost in air

Second Preparatory

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**Q5: What happens in the following cases?**

1. Levers were not discovered.
.....**It will be hard to make some tasks**.....
2. The effort arm is longer than the load arm in levers.
.....**saves effort**.....
3. Anthers and stigmas do not mature at the same time.
.....**cross pollination occurs**.....
4. A pollen grain falls on the stigma of a flower of another species.
.....**pollination and fertilization won't occur**.....
5. The gynoecium is removed from a complete flower before it opens.
.....**cross pollination occurs**.....

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Q6: Compare between:

1. First-, second-, and third-class levers in terms of:
(definition – example – saving effort)
2. Somatic cells and gonads.
3. Sexual reproduction and Asexual reproduction.
4. Pollen grains in wind-pollinated flowers and pollen grains in insect-pollinated flowers.
5. Bisexual flowers and unisexual flowers.
6. Androecium and gynoecium in terms of structure and function.
7. Self-pollination and cross-pollination (definition and method).

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Q7: Mention the importance of each of the following:

1. Lever: **perform tasks easily by increasing speed - force - distance - avoid danger**
2. Forceps: **accuracy - pick very tiny objects**
3. Crowbar: **increase force**
4. Mitosis in humans: **body growth - repair damage cells - healing wounds**
5. Meiosis in humans: **produce gametes for sexual reproduction
reduce chromosome count in gamete to ensure restoring of original
number of chromosomes of species after mating**

Q8: Problems:

1. A first-class lever has an applied effort of 40 N and an effort arm of 5 cm. It acts on a load of 100 N.
 ○ Calculate the length of the load arm. $40 \times 5 = 100 \times \text{arm}$
 ○ Does the lever save effort or not? $40 \times 5 / 100 = 2 \text{ cm}$
saves effort
2. A lever is acted upon by an effort of 30 N with an effort arm of 20 cm, and a load of 20 N with a load arm of 10 cm.
 ○ Is the lever in equilibrium? Why? **no, bec moment of effort isn't equal moment of load**
 ○ If the lever is not in equilibrium, what should be the length of the load arm to achieve equilibrium

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$$\begin{aligned} \text{moment of effort} &= \text{effort} \times \text{its arm} = 30 \times 20 = 600 \\ \text{moment of load} &= \text{load} \times \text{its arm} = 20 \times 10 = 200 \end{aligned}$$

$$\text{load arm} = 30 \times 20 / 20 = 30 \text{ cm}$$



صفحة الفيس تعالوا
Abeer Samir Science
On YouTube

Second term

نتعلم صح مع مس عسر

حمل الآن

مجاناً وحصرياً

المراجعة رقم (4)

اختبار شهر ابريل



1 Write the scientific term:

Unit 2

1)	A fixed point on which a rigid bar rests.	(.....)
2)	Levers where the fulcrum between effort and load.	(.....)
3)	Levers where the effort is between the load and the fulcrum point.	(.....)
4)	Levers where the load is between the effort and the fulcrum point.	(.....)
5)	A means used by man to save time or effort or both while performing tasks.	(.....)
6)	A rigid rod pivoted on a fulcrum and is acted upon by effort and load when used.	(.....)
7)	The distance between the effort and the fulcrum.	(.....)
8)	The distance between the load and the fulcrum.	(.....)
9)	A law that explains the relation between effort and load at equilibrium of levers.	(.....)
10)	The ratio between the effort arm length to the load arm length.	(.....)
11)	The male reproductive organ in the flower, consisting of several stamens.	(.....)
12)	Specialized cells responsible for sexual reproduction in living organisms.	(.....)
13)	Reproduction that occurs by two parent individuals of the same species, one male and the other female.	(.....)
14)	The fusion of the nucleus of the male gamete (n) with the nucleus of the female gamete (n) to form a zygote carrying the full number of chromosomes (2n).	(.....)
15)	The unit of structure and function in living organisms.	(.....)

unit 3

16)	A vital process in which a living organism produces new individuals of the same species, ensuring its continuity and protection from extinction.	(.....)
17)	The male reproductive organ in the flower, consisting of several stamens.	(.....)
18)	The transfer of pollen grains from the anthers of one flower to the stigmas of another flower on a different plant of the same species.	(.....)
19)	A short stem whose leaves are modified to carry out reproduction in plants.	(.....)
20)	A cell formed by the fusion of the egg nucleus with the pollen nucleus and containing (2n) chromosomes.	(.....)
21)	They include all the cells of the living organism, except the reproductive cells.	(.....)
22)	The male and female reproductive organs responsible for production of reproductive cells.	(.....)
23)	The cell division in which the somatic cell divides into two new diploid daughter cells identical to the parent cell.	(.....)
24)	The cell division in which the cell divides into four haploid daughter cells, each daughter cell contains half the original number of chromosomes.	(.....)
25)	A phenomenon that leads to the diversity of genetic traits among the individuals of the same species.	(.....)
26)	An abnormal cell growth formed when a somatic cell undergoes uncontrolled mitotic division repeatedly and abnormally.	(.....)
27)	A vital process in which the parental individual produces new individuals that are completely identical in genetic traits.	(.....)

28)	The form of the asexual reproduction of the potato plant through its tubers.	(.....)
29)	The stage that transforms by mitosis into an adult frog.	(.....)
30)	A cluster of flowers carried by the peduncle.	(.....)
31)	The part of the stem that carries a cluster of flowers.	(.....)
32)	An inflorescence that resembles a cluster of grapes, in which the flowers bloom from bottom to top.	(.....)
33)	A swollen part at the end of the flower pedicel that carries the floral whorls.	(.....)
34)	The floral whorl whose function is to protect the inner parts of the flower, especially before blooming.	(.....)
35)	The floral whorl whose function is attracting insects by its colour and fragrant.	(.....)
36)	A flower in which sepals and petals are absent.	(.....)
37)	The floral whorl that consists of a group of carpels.	(.....)
38)	An inflammation caused by an immune response to harmless substances such as pollen grains.	(.....)
39)	The flower whose floral leaves are arranged in four floral whorls.	(.....)
40)	The flower that contains both male and female organs together.	(.....)
41)	The flower that has either male organs only or female organs only.	(.....)
42)	The process of the transfer of pollen grains from the anthers of the stamens to the stigmas of the carpels.	(.....)
43)	The process of the transfer of pollen grains from the anther of a flower to the stigma in the same flower or to the stigma in another flower in the same plant.	(.....)

44)	An opening through which the nucleus of the pollen grain reaches to the nucleus of the ovule.	(.....)
45)	A stage in which the formation of the roots, stem and leaves begins in the life cycle of flowering plants.	(.....)
46)	Predicting future weather conditions in a certain place.	(.....)
47)	A white wooden box with slanted openings that protects temperature-measuring instruments.	(.....)
48)	A device is carried by a balloon to measure temperature, pressure, and humidity in the upper layers of the atmosphere.	(.....)
49)	Buoys used to collect data in oceans and transmit it via satellites.	(.....)
50)	Satellites that rotate around the Earth to provide comprehensive weather images and data.	(.....)
51)	Seasonal winds in Egypt carrying sand and dust and affecting health.	(.....)
52)	A gas used in radiosonde balloons because of its light weight.	(.....)
53)	The symbol used on maps to represent "thunder and lightning."	(.....)
54)	The symbol used to represent "snowfall."	(.....)
55)	The altitude at which the radiosonde balloon bursts (in kilometers).	(.....)
56)	The overall instantaneous condition of the atmosphere at certain place and time.	(.....)
57)	The atmospheric condition in a certain place over a long period of time.	(.....)
58)	The most important climatic element affecting the life of living organisms.	(.....)

59)	The latitude 0° that bisects the Earth into two halves, north and south.	(.....)
60)	Latitude of 23.5°N	(.....)
61)	Latitude of 23.5°S	(.....)
62)	The thermal zone located between the tropic of Cancer and the tropic of Capricorn.	(.....)
63)	The thermal zone located between latitudes 66.5° and 90° north or south.	(.....)
64)	The movement of cool, refreshing air from the sea towards the land during the daytime.	(.....)
65)	The movement of cool, relatively dry air from the land towards the sea at night.	(.....)
66)	The highest temperature in one day.	(.....)
67)	The lowest temperature in one day.	(.....)
68)	The difference between the maximum and minimum temperatures for one day.	(.....)
69)	The arithmetic mean of the maximum and minimum temperatures for one day.	(.....)
70)	The weight of a column of air with a cross-sectional area of 1 m^2 and a height extending to the top of the atmosphere.	(.....)
71)	A device used to measure atmospheric pressure.	(.....)
72)	Atmospheric pressure at sea level.	(.....)
73)	The amount of water vapour present in atmospheric air.	(.....)
74)	The actual mass of water vapour present in a certain volume of atmospheric air.	(.....)
75)	The percentage of absolute humidity to the maximum capacity at the same temperature.	(.....)

76)	It is the horizontal movement of air across the Earth's surface, caused by difference in atmospheric pressure.	(.....)
77)	The atmospheric pressure system at the two polar regions.	(.....)
78)	The atmospheric pressure system at 60° latitudes at north and south.	(.....)
79)	The phenomenon of wind deflection in the Northern Hemisphere in a clockwise direction.	(.....)
80)	A region where the atmospheric pressure value at its center is lower than that in the surrounding areas.	(.....)
81)	A region where the atmospheric pressure value at its center is higher than that in the surrounding areas.	(.....)
82)	They are curved lines connecting points of equal atmospheric pressure at sea level.	(.....)
83)	The atmospheric pressure system at which clouds and rainfall are formed.	(.....)
84)	The atmospheric pressure system where the weather is clear and sunny.	(.....)
85)	It is the process of predicting the future weather conditions for a certain location.	(.....)
86)	The technology used in oceans to collect weather data.	(.....)
87)	The technology for collecting weather data that is launched into the air carried by a balloon.	(.....)
88)	Stations for collecting and recording weather data.	(.....)
89)	The distance between the load (resistance) and the fulcrum.	(.....)

2 complete the following sentence:

Unit 2

1)	The effort arm is equal to the load arm in the levers	
2)	If the effort exerted is half the value of the resistance and the load arm is 50 cm then the effort arm is equal to cm.	
3)	Levers make tasks easier by , and	
4)	The crowbar is a class lever, while the manual broom is a class lever	
5)	The lever is in a state of equilibrium when the moment of the effort and the moment of load are	
6)	A machine saves effort when its mechanical advantage value is greater than	
7)	Increasing the length of the effort arm leads to	
8)	Second class levers are different from third class levers in	
9)	Examples of levers that increase speed /	
10)	First class levers save effort when is longer	unit 3
11)	After fertilization, the ovary matures and becomes a fruit, while the ovules change into	
12)	The floral whorl that protects the internal parts of the flower before its blooming is the	
13)	Examples of unisexual flowers include the plant and the plant	unit 4
14)	Winds are deflected to the right in the Hemisphere.	
15)	A low-pressure area is represented by the symbol	
16)	Air moves from areas of pressure to areas of pressure.	

17)	The deflection of winds caused by Earth's rotation is called the effect.
18)	At the equator, wind paths are
19)	Air currents in a low-pressure area are / , leading to cloud formation.
20)	Air currents in a high-pressure area are / , leading to dry and clear weather.

3 give reason for the following

Unit 2

1) Second class levers always save effort

2) Simple machines are very important in our lives.

3) The effort and load can be equal to the first type of levers only.

4) Third class levers do not always save effort.

5) Fixed pulley is a type of first-class lever.

6) Effort and load can be equal only in first-class Levers.

7) Sexual reproduction leads to variation in the inherited characteristics of the resulting individuals.

unit 3

8) The equality of the number of chromosomes in the somatic cells of different living organisms does not mean genetic similarity.

9) Petals in many flowers are brightly colored and have a Fragrant scent.

10) Anthers hang outside the flowers of some plants that are pollinated by wind.

11) Pollen grains in insect-pollinated plants are sticky or rough.

12) The importance of the floral envelope in flowers such as the Narcissus flower.

13) Wind-pollinated plants produce pollen grains in very large numbers.

14) The variety of weather and climate elements.

unit 4

15) The existence of different thermal zones on the Earth's surface.

16) The occurrence of sea breeze.

17) The difference in the daily temperature range from one city to another.

18) The variation of atmospheric pressure from one region to another.

19) The effect of humidity on atmospheric pressure.

20) The decrease in temperature with increasing distance away from the Equator.

21) Temperature is considered the most important climatic element.

.....

22) Areas close to the Equator are characterized by high temperatures.

.....

23) The occurrence of land breeze.

.....

24) Temperature decreases as we rise above sea level.

.....

25) The daily average temperature differs from one city to another.

.....

26) Atmospheric pressure decreases with increasing altitude above sea level.

.....

27) Temperature affects atmospheric pressure.

.....

28) Temperature is affected by differences in lines of latitude.

.....

29) Temperature is affected near water bodies.

.....

30) The rate of influenza spread increases in winter.

.....

31) The Stevenson screen is painted with white color.

.....

32) The radiosonde balloon bursts when it reaches high altitudes.

.....

33) The Stevenson screen is placed away from trees and buildings.

.....

34) Weather forecasts are not absolute facts.

.....

35) The importance of satellites in meteorology.

36) The Stevenson screen is raised 120 cm above ground level.

37) The presence of slanted openings in the walls of The Stevenson screen.

38) The radiosonde balloon is filled with helium or hydrogen gas.

39) Khamaseen winds have harmful health effects.

40) The accuracy of weather forecasts decreases as the time period increases.

4 what happen if

Unit 2

1) The levers were not detected.

2) If the effort arm is longer than the load arm in the levers.

3) Anthers and stigmas do not mature at the same time?

unit 3

4) A pollen grain falls on the stigma of a flower of a different species?

5) The gynoecium is removed from a typical flower before it blooms?

6) Increase both of the maximum and minimum temperatures?

7) We move higher above sea level?

8) The specific heat of water differs from that of land at night?

.....

9) We move closer to or farther away from the Equator?

unit 4

.....

10) Humidity increases (with respect to pressure)?

.....

11) Temperature increases (with respect to pressure)?

.....

12) The Earth stopped rotating?

.....

13) Meteorological satellites disappeared?

.....

Atmospheric pressure became equal between two cities?

.....

5 Answer the following

Unit 2

1) Mention the importance of each of the following:

1. lever :

2. Tweezers :

3. Crowbar :

4. Forceps:

2) Problem:

1-A type of first class lever had a force of 40 N and a effort arm of 5 cm. It affected a load of 100 N.

Calculate the length of the load arm? Does the lever save effort or not?

.....

.....

.....

- 3) Imagine trying to lift a huge rock using a metal pole as a lever and a small stone as a fulcrum.

1 - What type of levers will be used?

.....

2 - Will you choose a long or short column to get the job done?

.....

3 - Where will you put the small stone in relation to the huge rock?

.....

- 4) A lever affected by a force of 30 N, its length 20 cm, and a load of 20 N and a load arm length of 10 cm.
-

1 -Is this lever balanced? and why?

.....

2 - If the lever is unbalanced, what is the length of the load arm that achieves balance?

.....

- 5) Using the following table, find the value of x, y and state the law of levers.

Effort (Newton)	Effort Arm (cm)	Load (Newton)	Load Arm (cm)
x	5	1	10
4	5	2	y

.....

.....

- 6) The weight of a wheelbarrow carrying sand is 900 N. If the distance from the wheel (fulcrum) to the center of gravity of wheelbarrow (load) is 0.4 m, and from the wheel to the hand position on the handle (Effort) is 1.2 m:

(1) What is the lever type? Explain your answer.

.....

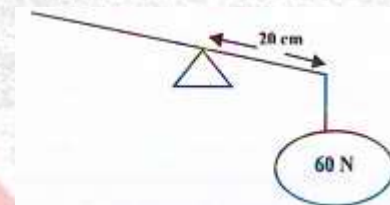
2) Does the wheelbarrow save effort? Justify your answer mathematically

.....

7) In the corresponding figure:

On what dimension of the fulcrum does
a load of 30 N is hanged, to balance the lever?

.....



8) A lever is acted upon by an effort of 30 N with an effort arm of 20 cm, and a load of 20 N with a load arm of 10 cm.

unit 3

1. Is the lever in equilibrium? Why?
 2. If the lever is not in equilibrium, what should be the length of the load arm to achieve equilibrium.
-

9) Pollination and Fertilization in Flowers

Based on your study of the types of pollination, determine the type of pollination in each of the following cases:

1. The androecium and gynoecium mature at the same time.
 2. The anthers are far from the stigmas or are at a higher level than them.
 3. All flowers are unisexual.
 4. Flowers remain closed and do not bloom until pollination.
-

10) Choose the odd word out, then state the relationship between the remaining ones:

- Zucchini - Date palm - Tomato – Maize
-

- Stigma - Style - Ovary – Filament

Self-pollination and cross-pollination (definition and method).

Self:

Cross:

11) Mention the importance of each of the following:

1. Mitosis in humans:
2. Meiosis in humans:

12) Problems:

1. A first-class lever has an applied effort of 40 N and an effort arm of 5 cm. It acts on a load of 100 N.

- Calculate the length of the load arm.

- Does the lever save effort or not?

13) Based on your study of the structure of the typical flower, complete the following table:

Floral whorl	Main function	Name of the leaf forming it
Calyx		
Corolla		
Androecium		
Gynoecium		

14) What is the importance (benefit) of each of the following:

unit 4

- 1) The difference in atmospheric pressure between two regions.

- 2) Knowing the direction of the Coriolis effect.

3) Weather maps.

4) The white color of the Stevenson screen

5) The slanted openings in the Stevenson screen.

6) Placing the Weather Kiosk away from trees and buildings.

7) The radiosonde balloon.

8) Meteorological satellites.

9) The parachute in the radiosonde.

10) Weather Forecast Icons (Symbols)

6

Mark (✓) or (x), with correction :

Unit 3

1)	Gametes contain a diploid number of chromosomes (2n).	()
2)	Asexual reproduction takes place by mitosis.	()
3)	Cancerous tumors result from repeated abnormal meiotic divisions.	()
4)	Crossing-over phenomenon between chromosomes contributes to genetic diversity among individuals.	()
5)	Winds move in completely straight paths from the poles to the equator.	()
6)	Wind speed increases when the difference in atmospheric pressure is large.	()
7)	In the Northern Hemisphere, winds rotate around the center of a low-pressure system anticlockwise direction	()
8)	Cold, moist air in polar regions forms a high-pressure area.	()
9)	The Coriolis effect is responsible for winds moving in curved paths.	()
10)	Lines of equal pressure are called isobars.	()

unit 4

- 11) At the center of a low-pressure system, pressure values are higher than in surrounding areas. ()

7 Choose the correct answer:

Unit 2

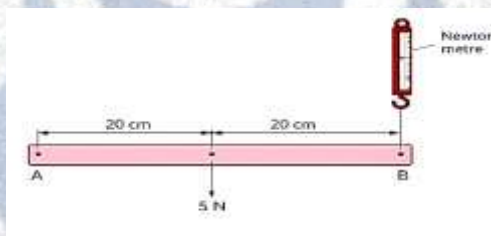
1) When the lever is at equilibrium.....

- a) Effort x load arm = load x Effort arm
- b) Moment of effort > Moment of load
- c) Effort x its arm > load x its arm
- d) Moment of effort = Moment of load

2) Ice tongs.....

- a) have a mechanical advantage equal to 1
- b) are a third-class lever.
- c) have a mechanical advantage greater than 1
- d) are a second-class lever.

3) A metal rod AB of weight 5 N is able to rotate around point A



What is the reading of the Newton meter when the rod is balanced horizontally?

- a) 2.5N
- b) 5N
- c) 8N
- d) 10 N

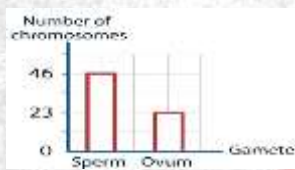
4) The cells of parts illustrated in the opposite figure contain the same number of

- a) ATP molecules.
- b) gametes.
- c) chromosomes (2n).
- d) chromosomes (n).

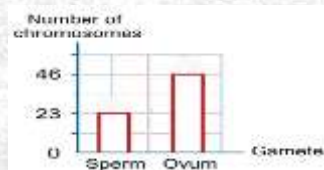


unit 3

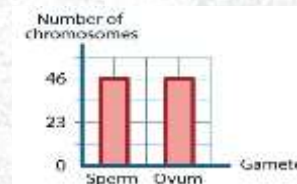
5) Which of the following represents the number of chromosomes found in human gametes?



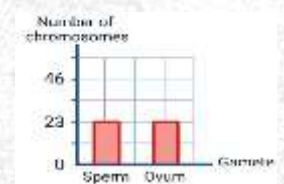
(a)



(b)

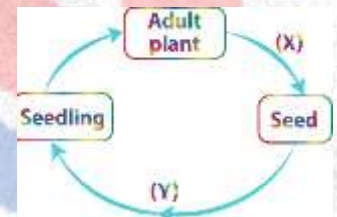


(c)



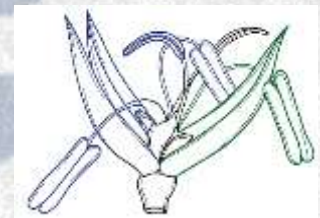
(d)

6) The opposite figure illustrates the life cycle of a flowering plant: Which of the following describes both processes Choose x and (Y)?



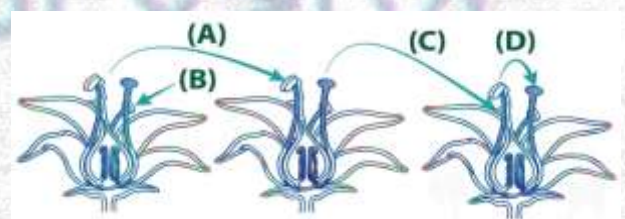
- a) (x): Germination and fertiization ,(Y) Pollinasion.
- b) (x): Pollination and fertillization . ,(Y) Germination.
- c) (x): Pollination ,(Y): Fertilization and germination
- d) (x): Fertilization. ,(Y) Pollination and germination.

7) The coposite figure illustrates the structure of a flower. Which of the following describes this fiower?



- a) Bisexual, insect-pollinated
- b) Unisexual, wind-pollinatod
- c) Unisexual, insect-pollinated
- d) Bisexual, wind-pollinaled

8) From the opposite figure Which letter indicates cross-pollination?



- a) (A)
- b) (B)
- c) (C)
- d) (D)

9) Which statement correctly describes

the petunia flower?

a) Its petals are arranged in a single whorl.

b) Its petals are green in colour.

c) Its sepals are separate.

d) The number of its sepals is double the number of its petals

10) What occurs immediately after fertilization in sexual reproduction?

a) A zygote with a tetraploid chromosome number ($4n$) is formed.

b) The zygote begins to divide mitotically.

c) The zygote undergoes meiotic division.

d) A zygote with a haploid chromosome number (n) is formed.

11) Winds arise as a result of differences in between
Neighboring areas

unit 4

a) temperature

b) atmospheric pressure

c) humidity

12) Air always moves from areas of ... pressure to areas of pressure.

a) high/low

b) low/high

c) low/low

13) The rotation of the Earth around its axis causes the deflection of winds,
known as.....

a) greenhouse effect

b) Coriolis effect

c) atmospheric pressure

14) Winds are deflected in the Northern Hemisphere to the of their
original direction.

a) right

b) left

c) east

15) Winds are deflected in the Southern Hemisphere
the clockwise direction

a) with

b) against

c) parallel to

16) Wind deflection is greatest at the.....

- a) equator b) poles c) tropics
-

17) A high atmospheric pressure area is represented by the symbol

- a) L b) H c) P
-

18) On weather maps, the lines that connect points of equal pressure are called

- a) isobars b) lines of longitude c) elevations
-

19) A low-pressure area is represented by the color

- a) blue b) red c) yellow
-

20) A low-pressure area (L) forms at the

- a) poles b) equator c) cold regions
-

21) Weather forecasts help farmers determine the times of.....

- a) irrigation b) harvesting c) both of them
-

22) One of the safety measures during Khamaseen winds is.....

- a) wearing a mask b) traveling by sea c) irrigating crops
-

23) A weather forecast for ... is more accurate than a one-week forecast.

- a) two days b) a month c) a year
-

24) Weather forecast aim in protection of lives from ..

- a) earthquakes b) thunderstorms c) volcanoes
-

25) Aircraft navigation mainly depends on knowing

- a) weather maps b) ocean depths c) forests
-

26) The most important climatic element is

- a) temperature. b) atmospheric pressure.
c) humidity d) wind
-

- a) 1013.25 mm Hg b) 700 mb
c) 1013.25 mb d) 760 cm.Hg

- a) Temperatures are equal at latitude 30° North and latitude 0°
- b) Temperatures are equal at latitude 30° South and the Equator.
- c) Temperature at latitude 60° North is higher than at latitude 0° in winter.
- d) Temperature at latitude 60° North is lower than at the Equator in winter

- a) Its effect reaches its maximum at the Equator.
- b) it causes wind to be deflected to the left in the Southern Hemisphere.
- c) It does not cause wind deflection in the Northern Hemisphere.
- d) Its effect becomes clear when atmospheric pressure values differ.

- a) in a dock wise direction, outward away from the system.
- b) in a dock wise direction, inward toward the center of the system.
- c) in an anticlockwise direction, outward away from the center of the system.
- (d) in an anticlockwise direction, inward toward the center of the system.

- a) the atmosphere. b) the oceans.
c) weather station shelters d) weather stations

8 what is meant by

Unit 2

Simple Machine	.....
Lever	.....
Fulcrum	.....
Effort arm	.....

Load arm	.....
The Law of Levers	.....
Moment of effort	.....
Moment of load	.....
Mechanical advantage of lever	.....
Somatic cells	.....
Asexual reproduction	.....
Reproductive cells	.....
Mitosis	.....
Meiosis	.....
Genetic crossing over	.....
Flower	.....
Typical flower	.....
Floral envelope	.....
Androecium	.....
Gynoecium	.....
Bisexual flower	.....
Unisexual flower	.....
Pollination	.....
Fertilization	.....
Weather	.....
Climate	.....
Maximum temperature	.....
Minimum temperature	.....

Daily average temperature	.....
Daily temperature range	.....
Atmospheric pressure	.....
Humidity	.....
Absolute humidity	.....
Relative humidity	.....
Winds:	.....
Coriolis effect:	.....
Isobars:	.....
Low-pressure system (L):	.....
The Weather Kiosk (Stevenson's Kiosk):	.....
Weather forecasting:	.....
Radiosonde:	.....
Meteorological buoys:	.....
High-pressure system:	.....
Khamaseen winds:	.....

9 compare between eqch of the following

Unit 2

- 1) The first, second and third class of levers in terms of: (definition - mentioning an example of each type - saving effort).

- 2) a) Somatic cells and reproductive (germ) cells.
b) Sexual reproduction and asexual reproduction.

Unit 3

- 3) Pollination and Fertilization in Flowers

Means of Pollen Grain Transfer

- 4) Compare between self-pollination and cross-pollination
(in terms of definition and how each occurs)

- 5) Pollen grains in wind-pollinated flowers and pollen grains in insect-pollinated flowers.

1. Bisexual flowers and unisexual flowers.

2. Androecium and gynoecium in terms of structure and function.

- 6) Weather and Climate.
7) Daily average temperature and daily temperature range.
8) Compare between land breeze and sea breeze
(Two points only).

Unit 4

10 correct the following statement

Unit 2

- 1) Soda water opener is a type first class lever

(.....).

- 2) One of the functions of the levers is to reduce the effort as in manual broom.

(.....).

- 3) The first type of levers differ from the second type of levers in the presence of an effective effort.

(.....).

Unit 3

- 4) Gamete cells contain the full number of chromosomes found in somatic cells. (.....).

Mitosis is known as reduction division.

(.....).

- 5) Asexual reproduction depends on meiosis. (.....)
- 6) The first meiotic division is a mitotic division. (.....)
- 7) Vegetative reproduction leads to variation in the inherited characteristics of the resulting individuals. (.....)
- 8) after the second meiotic division, two cells are produced containing half the original number of chromosomes (n). (.....)
- 9) A bottle opener is a first-class lever. (.....)

- 10) One function of levers is decreasing force as in the hand broom. (.....)

Unit 4

- 11) First-class levers differ from second-class levers in the presence of an applied force. (.....)
- 12) A fishing rod is a second-class lever. (.....)
- 13) Vegetative reproduction is a form of sexual reproduction. (.....)

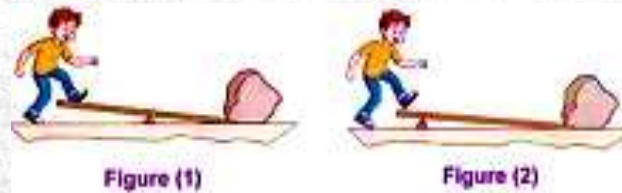
12 various questions

Unit 2

- 1) The following figures represents a lever from

		
..... type	 type	 type
1. Head/Neck:	2. Arm:.....	3. Foot/Leg:
.....		

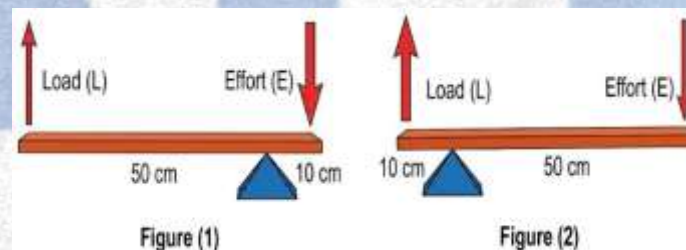
2) From the two figures



Which figure represents a better way to lift the rock? Explain your answer.

What can be done to increase the mechanical advantage of this lever?

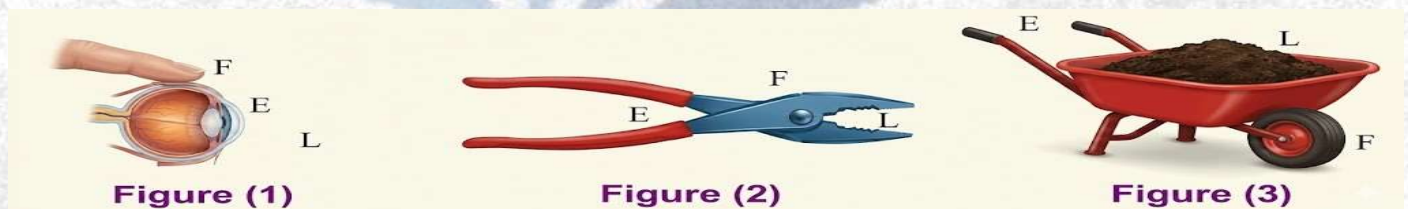
3) The following two figures represent a type of levers:



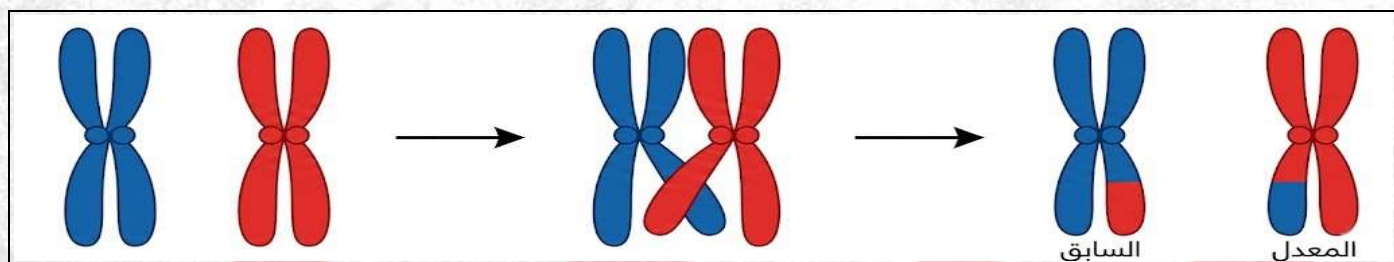
(1) What type of lever is this? Explain your answer.

(2) Which figure represents the lever when it has a greater mechanical advantage? Find its value.

4) Classify the levers shown in the figures below in terms of their types:



5) Look at the following figure, then complete the data:



Homologous chromosomes	Non-sister twist around one another	Exchange of
..... Phenomena		

6) Study the figures in front of you, then identify the name of the plant and state the difference between them in terms of (petals and sepals).



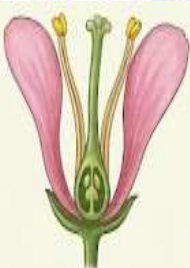
(2)



(1)

Name of the plant	Sepals	Petals
.....		
.....		

7) Observe the following flowers, then determine the sex of each flower and explain the reason:



The flower:
.....



The flower:
.....

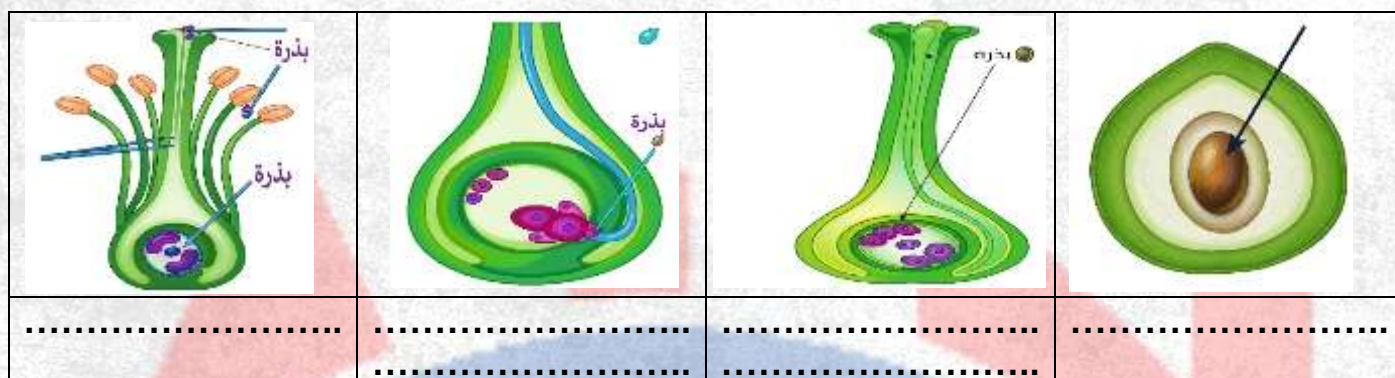


The flower:
.....

The flower: Reason:	The flower: Reason:	The flower: Reason:
--	--	--

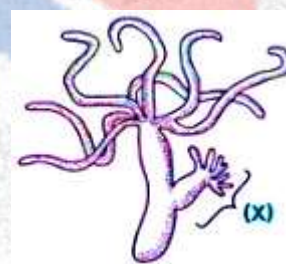
8) Fertilization

Determine the steps of fertilization and fruit formation:



9) The figure shows the reproduction of a living organism produced by a single parent:

(1) Is the number of chromosomes in the cells of part (X) resulting from the reproduction process equal to (n) or (2n)?

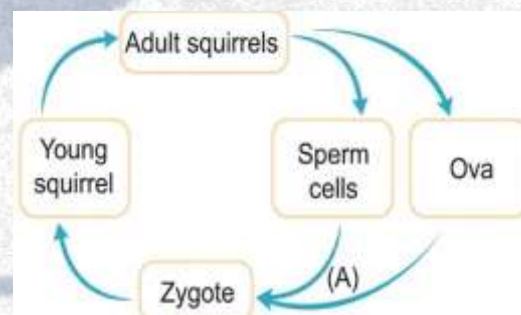


(2) What is the type of this reproduction?

(3) Does this reproduction occur through meiosis or mitosis?

10) The diagram shows the reproduction cycle of the squirrel in which the zygote contains 40 chromosomes :

(1) What is the name of process (A)?

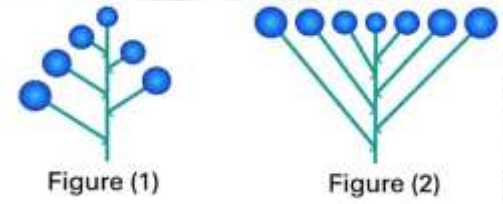


(2) What is the number of chromosomes in each cell of:

1- Young squirrel.

2- The ova.

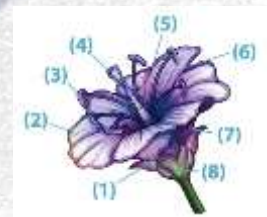
11) In front of you are two examples of inflorescences you have studied
Compare between them in terms of:



- (1) Type of inflorescence.
- (2) Length of the peduncle.
- (3) Reason for naming.

	Shape (1)	Shape (2)
(1) Type of inflorescence		
(2) Peduncle length		
(3) Reason for naming		

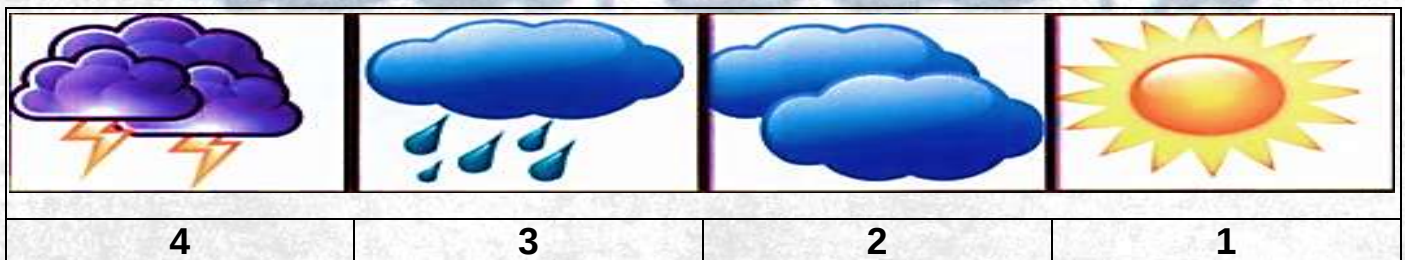
12) Replace the numbers shown in the opposite figure
bers shown with the appropriate labels.



.....

13) Identify the symbols:

Unit 4



- 1) The symbol that represents a thunderstorm is
- 2) The symbol that represents sunny weather is

3) What does symbol (3) indicate on weather maps?

.....

14) The following figure represents one of the natural phenomena

(1) What is the name of this phenomenon?

Does it occur during the day or at night?

.....



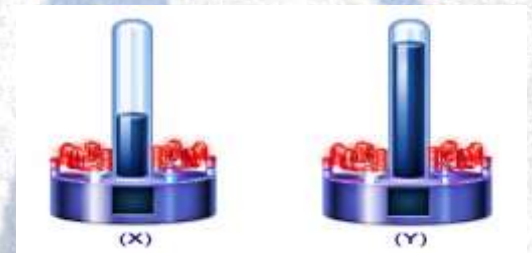
(2) According to what you have studied.
mention. What is the cause of this phenomenon?

.....

15) The opposite figure shows a device placed
at the base of a mountain once and at its peak
another time.

(1) What is the name of this device
and what is it used for?

.....



2) Identify which figure, (X) or (Y). represents the device when it is
at the peak of the mountain. Explain your answer

.....

16) What does each of the numbers shown on the following map indicate?



1 Write the scientific term:

Unit 2

1)	A fixed point on which a rigid bar rests.	(Fulcrum)
2)	Levers where the fulcrum between effort and load.	(First-class levers)
3)	Levers where the effort is between the load and the fulcrum point.	(Third-class levers)
4)	Levers where the load is between the effort and the fulcrum point.	(Second-class levers)
5)	A means used by man to save time or effort or both while performing tasks.	The machine.
6)	A rigid rod pivoted on a fulcrum and is acted upon by effort and load when used.	Levers.
7)	The distance between the effort and the fulcrum.	Effort arm.
8)	The distance between the load and the fulcrum.	Load arm.
9)	A law that explains the relation between effort and load at equilibrium of levers.	Law of levers.
10)	The ratio between the effort arm length to the load arm length.	Mechanical advantage.
11)	The male reproductive organ in the flower, consisting of several stamens.	(Anthers)
12)	Specialized cells responsible for sexual reproduction in living organisms.	(Gametes (Sperm/Ovum))
13)	Reproduction that occurs by two parent individuals of the same species, one male and the other female.	(Sexual reproduction)
14)	The fusion of the nucleus of the male gamete (n) with the nucleus of the female gamete (n) to form a zygote carrying the full number of chromosomes (2n).	(Fertilization)
15)	The unit of structure and function in living organisms.	(The Cell)
16)	A vital process in which a living organism produces new individuals of the same species, ensuring its continuity and protection from extinction.	(Reproduction)
17)	The male reproductive organ in the flower, consisting of several stamens.	(Androecium (Stamens))
18)	The transfer of pollen grains from the anthers of one flower to the stigmas of another flower on a different plant of the same species.	(Cross-pollination)

unit 3

19)	A short stem whose leaves are modified to carry out reproduction in plants.	(Flower)
20)	A cell formed by the fusion of the egg nucleus with the pollen nucleus and containing (2n) chromosomes.	(Zygote)
21)	They include all the cells of the living organism, except the reproductive cells.	Somatic cells.
22)	The male and female reproductive organs responsible for production of reproductive cells.	Gonads.
23)	The cell division in which the somatic cell divides into two new diploid daughter cells identical to the parent cell.	Mitosis.
24)	The cell division in which the cell divides into four haploid daughter cells, each daughter cell contains half the original number of chromosomes.	Meiosis.
25)	A phenomenon that leads to the diversity of genetic traits among the individuals of the same species.	Crossing-over phenomenon.
26)	An abnormal cell growth formed when a somatic cell undergoes uncontrolled mitotic division repeatedly and abnormally.	Cancerous tumor.
27)	A vital process in which the parental individual produces new individuals that are completely identical in genetic traits.	Asexual reproduction.
28)	The form of the asexual reproduction of the potato plant through its tubers.	Vegetative reproduction.
29)	The stage that transforms by mitosis into an adult frog.	Tadpole stage.
30)	A cluster of flowers carried by the peduncle.	Inflorescence.
31)	The part of the stem that carries a cluster of flowers.	Peduncle.
32)	An inflorescence that resembles a cluster of grapes, in which the flowers bloom from bottom to top.	Simple raceme inflorescence.
33)	A swollen part at the end of the flower pedicel that carries the floral whorls.	Receptacle.
34)	The floral whorl whose function is to protect the inner parts of the flower, especially before blooming.	Calyx.

35)	The floral whorl whose function is attracting insects by its colour and fragrant.	Corolla.
36)	A flower in which sepals and petals are absent.	Naked flower
37)	The floral whorl that consists of a group of carpels.	Pistil.
38)	An inflammation caused by an immune response to harmless substances such as pollen grains.	Hay fever.
39)	The flower whose floral leaves are arranged in four floral whorls.	Typical flower.
40)	The flower that contains both male and female organs together.	Bisexual flower.
41)	The flower that has either male organs only or female organs only.	Unisexual flower.
42)	The process of the transfer of pollen grains from the anthers of the stamens to the stigmas of the carpels.	Pollination.
43)	The process of the transfer of pollen grains from the anther of a flower to the stigma in the same flower or to the stigma in another flower in the same plant.	Self-pollination.
44)	An opening through which the nucleus of the pollen grain reaches to the nucleus of the ovule.	Micropyle opening.
45)	A stage in which the formation of the roots, stem and leaves begins in the life cycle of flowering plants.	Vegetative growth.
46)	Predicting future weather conditions in a certain place.	(Weather forecasting)
47)	A white wooden box with slanted openings that protects temperature-measuring instruments.	(Stevenson screen (Weather station shelter))
48)	A device is carried by a balloon to measure temperature, pressure, and humidity in the upper layers of the atmosphere.	(Radiosonde)
49)	Buoys used to collect data in oceans and transmit it via satellites.	(Meteorological buoys)
50)	Satellites that rotate around the Earth to provide comprehensive weather images and data.	(Meteorological satellites)
51)	Seasonal winds in Egypt carrying sand and dust and affecting health.	(Khamaseen winds)

52)	A gas used in radiosonde balloons because of its light weight.	(Hydrogen or Helium gas)
53)	The symbol used on maps to represent "thunder and lightning."	(Thunderstorm symbol (often a lightning bolt))
54)	The symbol used to represent "snowfall."	(Snowfall symbol (snowflake))
55)	The altitude at which the radiosonde balloon bursts (in kilometers).	(Bursting altitude (approximately 30–40 km))
56)	The overall instantaneous condition of the atmosphere at certain place and time.	Weather.
57)	The atmospheric condition in a certain place over a long period of time.	Climate.
58)	The most important climatic element affecting the life of living organisms.	Temperature.
59)	The latitude 0° that bisects the Earth into two halves, north and south.	The Equator.
60)	Latitude of 23.5°N	Tropic of Cancer.
61)	Latitude of 23.5°S	Tropic of Capricorn.
62)	The thermal zone located between the tropic of Cancer and the tropic of Capricorn.	The hot zone (tropical).
63)	The thermal zone located between latitudes 66.5° – 90° north or south.	The cold zone (polar).
64)	The movement of cool, refreshing air from the sea towards the land during the daytime.	Sea breeze.
65)	The movement of cool, relatively dry air from the land towards the sea at night.	Land breeze.
66)	The highest temperature in one day.	Maximum temperature.
67)	The lowest temperature in one day.	Minimum temperature.
68)	The difference between the maximum and minimum temperatures for one day.	Daily temperature range.
69)	The arithmetic mean of the maximum and minimum temperatures for one day.	Daily average temperature.
70)	The weight of a column of air with a cross-sectional area of 1 m^2 and a height extending to the top of the atmosphere.	Atmospheric pressure.
71)	A device used to measure atmospheric pressure.	Mercury barometer.
72)	Atmospheric pressure at sea level.	Normal atmospheric pressure.

73)	The amount of water vapour present in atmospheric air.	Humidity.
74)	The actual mass of water vapour present in a certain volume of atmospheric air.	Absolute humidity.
75)	The percentage of absolute humidity to the maximum capacity at the same temperature.	Relative humidity.
76)	It is the horizontal movement of air across the Earth's surface, caused by difference in atmospheric pressure.	Wind.
77)	The atmospheric pressure system at the two polar regions.	High atmospheric pressure.
78)	The atmospheric pressure system at 60° latitudes at north and south.	Low atmospheric pressure.
79)	The phenomenon of wind deflection in the Northern Hemisphere in a clockwise direction.	Coriolis Effect.
80)	A region where the atmospheric pressure value at its center is lower than that in the surrounding areas.	Low pressure system.
81)	A region where the atmospheric pressure value at its center is higher than that in the surrounding areas.	High pressure system.
82)	They are curved lines connecting points of equal atmospheric pressure at sea level.	Isobars (lines of equal pressure).
83)	The atmospheric pressure system at which clouds and rainfall are formed.	Low atmospheric pressure regions.
84)	The atmospheric pressure system where the weather is clear and sunny.	High atmospheric pressure regions.
85)	It is the process of predicting the future weather conditions for a certain location.	Weather forecasting.
86)	The technology used in oceans to collect weather data.	Weather buoys.
87)	The technology for collecting weather data that is launched into the air carried by a balloon.	Radiosonde (radio probe).
88)	Stations for collecting and recording weather data.	Weather stations.
89)	The distance between the load (resistance) and the fulcrum.	(Arm of resistance)

2 complete the following sentence:

Unit 2

1)	The effort arm is equal to the load arm in the First class levers	
2)	If the effort exerted is half the value of the resistance and the load arm is 50 cm then the effort arm is equal to 100 cm (Since $F \times 0.5 = R$, and arms must balance the ratio) cm.	
3)	Levers make tasks easier by Increasing force , Increasing distance and Increasing speed	
4)	The crowbar is a First class lever, while the manual broom is a Third class lever	
5)	The lever is in a state of equilibrium when the moment of the effort and the moment of load are Equal	
6)	A machine saves effort when its mechanical advantage value is greater than One (1) .	
7)	Increasing the length of the effort arm leads to Saving effort (Decreasing the effort needed) .	
8)	Second class levers are different from third class levers in The position of the load and effort (or "saving effort") .	
9)	Examples of levers that increase speed Manual broom / Hockey bat .	
10)	First class levers save effort when Effort arm is longer	
11)	After fertilization, the ovary matures and becomes a fruit, while the ovules change into seeds .	unit 3
12)	The floral whorl that protects the internal parts of the flower before its blooming is the Calyx (Sepals) .	
13)	Examples of unisexual flowers include the plant Maize (Corn) and the plant Palm (or Zucchini) .	unit 4
14)	Winds are deflected to the right in the Northern Hemisphere.	
15)	A low-pressure area is represented by the symbol L in red colour	
16)	Air moves from areas of High pressure to areas of Low pressure.	
17)	The deflection of winds caused by Earth's rotation is called the Coriolis effect.	
18)	At the equator, wind paths are straight	
19)	Air currents in a low-pressure area are Rising / Ascending , leading to cloud formation.	
20)	Air currents in a high-pressure area are Descending / Falling , leading to dry and clear weather.	

3 give reason for the following**Unit 2**

- 1) Second class levers always save effort

Because the effort arm is always longer than the load arm.

- 2) Simple machines are very important in our lives.

They help us perform hard tasks with less effort or more precision.

- 3) The effort and load can be equal to the first type of levers only.

Because the fulcrum is in the middle, allowing the arms to be equal

- 4) Third class levers do not always save effort.

Because the effort arm is shorter than the load arm.

- 5) Fixed pulley is a type of first-class lever.

Because the fulcrum is between the effort and the load.

- 6) Effort and load can be equal only in first-class Levers.

Because the fulcrum is located between the effort and the load.

- 7) Sexual reproduction leads to variation in the inherited characteristics of the resulting individuals.

unit 3

Because of the crossing over phenomenon and the fusion of male and female gametes from two different parents.

- 8) The equality of the number of chromosomes in the somatic cells of different living organisms does not mean genetic similarity.

Because the genetic information (DNA) carried on those chromosomes differs from one species to another.

- 9) Petals in many flowers are brightly colored and have a Fragrant scent.

Petals are brightly colored/fragrant: To attract insects for the pollination process.

- 10) Anthers hang outside the flowers of some plants that are pollinated by wind.

To be easily opened by air currents to scatter pollen.

11) Pollen grains in insect-pollinated plants are sticky or rough.

To stick easily to the bodies of visiting insects.

12) The importance of the floral envelope in flowers such as the Narcissus flower.

To protect the internal reproductive organs from environmental harm.

13) Wind-pollinated plants produce pollen grains in very large numbers.

To compensate for the large amount of pollen lost in the air.

14) The variety of weather and climate elements.

unit 4

Due to the difference in temperature, pressure, wind, and humidity from one place to another.

15) The existence of different thermal zones on the Earth's surface.

Because of the Earth's spherical shape and the tilt of its axis, which makes sunlight hit the surface at different angles.

16) The occurrence of sea breeze.

Due to the difference in temperature between land and sea during the day (land heats up faster).

17) The difference in the daily temperature range from one city to another.

Influenced by geographic location, proximity to water bodies, and cloud cover.

18) The variation of atmospheric pressure from one region to another.

Due to differences in temperature and altitude above sea level.

19) The effect of humidity on atmospheric pressure.

Moist air is less dense than dry air, so as humidity increases, atmospheric pressure decreases.

20) The decrease in temperature with increasing distance away from the Equator.

Because solar radiation hits at a more inclined angle, spreading over a larger area.

21) Temperature is considered the most important climatic element.

Because it affects all other climatic elements like pressure, wind, and rain.

22) Areas close to the Equator are characterized by high temperatures.

Because the sun's rays fall vertically on the equator.

23) The occurrence of land breeze.

Due to land cooling down faster than sea water at night.

24) Temperature decreases as we rise above sea level.

Because we move away from the Earth's surface (the heat source) and the air becomes less dense.

25) The daily average temperature differs from one city to another.

Due to the change in solar radiation intensity and location.

26) Atmospheric pressure decreases with increasing altitude above sea level.

Due to the decrease in the length and weight of the air column.

27) Temperature affects atmospheric pressure.

High temperature causes air to expand and rise (low pressure), while low temperature makes air dense (high pressure).

28) Temperature is affected by differences in lines of latitude.

It determines the angle of solar rays (vertical or oblique).

29) Temperature is affected near water bodies.

Water moderates temperature (cooler in summer, warmer in winter).

30) The rate of influenza spread increases in winter.

Because low temperatures and low humidity help the virus survive and spread.

31) The Stevenson screen is painted with white color.

To reflect solar radiation.

32) The radiosonde balloon bursts when it reaches high altitudes.

Because atmospheric pressure decreases, making the gas inside expand until it pops.

33) The Stevenson screen is placed away from trees and buildings.

To avoid the influence of heat radiation or wind obstruction from structures.

34) Weather forecasts are not absolute facts.

Because they are based on expectations and variables that can change.

35) The importance of satellites in meteorology.

They track large-scale weather systems like hurricanes.

36) The Stevenson screen is raised 120 cm above ground level.

To avoid the effect of heat radiated from the ground surface.

37) The presence of slanted openings in the walls of The Stevenson screen.

To allow free air entry while blocking direct sunlight.

38) The radiosonde balloon is filled with helium or hydrogen gas.

Because they have very low density (lighter than air).

39) Khamaseen winds have harmful health effects.

They carry dust and sand which cause respiratory problems.

40) The accuracy of weather forecasts decreases as the time period increases.

Because weather variables become more unpredictable over long periods.

4 what happen if

Unit 2

1) The levers were not detected.

Tasks would be much harder and require more physical effort.

2) If the effort arm is longer than the load arm in the levers.

The lever saves effort because the effort needed is less than the load.

3) Anthers and stigmas do not mature at the same time?

unit 3

Self-pollination cannot occur; the plant must rely on cross-pollination

4) A pollen grain falls on the stigma of a flower of a different species?

The pollen grain will not germinate, and fertilization will not occur.

5) The gynoecium is removed from a typical flower before it blooms?

The flower will not be able to produce fruits or seeds (it becomes a male flower).

6) Increase both of the maximum and minimum temperatures?

The daily average temperature increases, and the daily temperature range might change.

7) We move higher above sea level?

Atmospheric pressure and temperature both decrease.

8) The specific heat of water differs from that of land at night?

This causes the land to cool faster than water, creating a "land breeze."

9) We move closer to or farther away from the Equator?

unit 4

Tasks would take more effort and time.

10) Humidity increases (with respect to pressure)?

The lever saves effort.

11) Temperature increases (with respect to pressure)?

Self-pollination will not occur; cross-pollination happens.

12) The Earth stopped rotating?

Winds would move in straight lines from poles to equator (no Coriolis effect).

13) Meteorological satellites disappeared?

We couldn't track global storms or get large-scale weather images.

14) Atmospheric pressure became equal between two cities?

No wind would blow between the two cities.

5 Answer the following

Unit 2

15) Mention the importance of each of the following:

1. lever : Making tasks easier by increasing force, distance, or speed.
2. Tweezers : Accuracy in performance (picking up small objects).
3. Crowbar : Increasing force to move heavy objects.
4. Forceps: Picking up very small objects.

16) Problem:

1-A type of first class lever had a force of 40 N and a effort arm of 5 cm. It affected a load of 100 N.

Calculate the length of the load arm? Does the lever save effort or not?

$$40 \times 5 = 100 \times L.$$

$$\text{Load arm} = 200 / 100 = 2 \text{ cm.}$$

Does it save effort? Yes, because effort (40N) < load (100N).

17) Imagine trying to lift a huge rock using a metal pole as a lever and a small stone as a fulcrum.

1 - What type of levers will be used?

First-class.

2 - Will you choose a long or short column to get the job done?

Long (to save effort).

3 - Where will you put the small stone in relation to the huge rock?

Near the rock.

18) A lever affected by a force of 30 N, its length 20 cm, and a load of 20 N and a load arm length of 10 cm.

$$30 \times 20 = 600.$$

$$20 \times 10 = 200$$

1 -Is this lever balanced? and why?

No, moments are not equal.

2 - If the lever is unbalanced, what is the length of the load arm that achieves balance?

$$600 = 20 \times \text{Load arm} \rightarrow \text{Load arm} = 30 \text{ cm.}$$

19) Using the following table, find the value of x, y and state the law of levers.

Effort (Newton)	Effort Arm (cm)	Load (Newton)	Load Arm (cm)
x	5	1	10
4	5	2	y

$$x = (1 \times 10) / 5 = 2 \text{ N.}$$

$$y = (4 \times 5) / 2 = 10 \text{ cm.}$$

- 20) The weight of a wheelbarrow carrying sand is 900 N. If the distance from the wheel (fulcrum) to the center of gravity of wheelbarrow (load) is 0.4 m, and from the wheel to the hand position on the handle (Effort) is 1.2 m:

(1) What is the lever type? Explain your answer.

Yes it save effort , Second class lever, because the load is located between the fulcrum and the effort.

2) Does the wheelbarrow save effort? Justify your answer mathematically

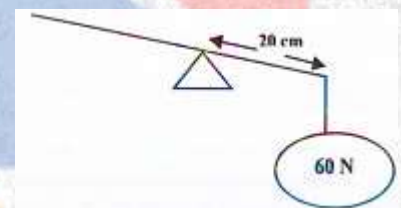
Mechanical advantage of the lever

$$= \frac{\text{Effort arm}}{\text{Load arm}} = \frac{1.2}{0.4} = 3$$

- 21) In the corresponding figure:

On what dimension of the fulcrum does a load of 30 N is hanged, to balance the lever?

$$30 \times \text{arm} = 1200 \rightarrow \text{arm} = 40 \text{ cm from the fulcrum}$$



- 22) A lever is acted upon by an effort of 30 N with an effort arm of 20 cm, and a load of 20 N with a load arm of 10 cm.

unit 3

1. Is the lever in equilibrium? Why?

2. If the lever is not in equilibrium, what should be the length of the load arm to achieve equilibrium.

1. No, because the two moments are not equal.

$$2. 30 \text{ N} \times 20 \text{ cm} = 20 \text{ N} \times L$$

$$600 = 20 \times L$$

$$L = 600 \div 20$$

$$L = 30 \text{ cm}$$

The length of the load arm should be 30 cm to achieve equilibrium

- 23) Pollination and Fertilization in Flowers

Based on your study of the types of pollination, determine the type of pollination in each of the following cases:

1. The androecium and gynoecium mature at the same time.

(Mature at same time → Self-pollination)

2. The anthers are far from the stigmas or are at a higher level than them.

(**Anthers higher/far → Cross-pollination**)

3. All flowers are unisexual.

(**Unisexual flowers → Cross-pollination**)

4. Flowers remain closed and do not bloom until pollination.

(**Remain closed → Self-pollination**)

24) Choose the odd word out, then state the relationship between the remaining ones:

- Zucchini - Date palm - Tomato – Maize

Odd word: Tomato. (Zucchini, Date palm, and Maize are Unisexual, while Tomato is Bisexual).

- Stigma - Style - Ovary – Filament

Odd word: Filament. (Stigma, Style, and Ovary are parts of the Carpel/Gynoecium, while Filament is part of the stamen).

25) Self-pollination and cross-pollination (definition and method).

Self: Transfer of pollen within the same flower or plant.

Cross: Transfer of pollen between two different plants of the same species.

26) Mention the importance of each of the following:

1. Mitosis in humans: **Growth and replacing damaged cells.**

2. Meiosis in humans: **Producing gametes for reproduction.**

27) Problems:

1. A first-class lever has an applied effort of 40 N and an effort arm of 5 cm. It acts on a load of 100 N.

- Calculate the length of the load arm.

$$40 \times 5 = 100 \times x$$

$$x = 40 \times 5 \div 100 = 2\text{cm}$$

- Does the lever save effort or not?

Yes, because the effort arm is longer than the load arm.

28) Based on your study of the structure of the typical flower, complete the following table:

Floral whorl	Main function	Name of the leaf forming it
Calyx	Protects the inner parts of the flower before blooming.	Sepals
Corolla	Attracts insects for pollination and protects reproductive organs.	Petals
Androecium	Production of pollen grains (Male organ).	Stamens
Gynoecium	Production of ovules (Female organ).	Carpels

29) What is the importance (benefit) of each of the following:

unit 4

1) The difference in atmospheric pressure between two regions.

Causes air to move (wind) from high to low pressure areas.

2) Knowing the direction of the Coriolis effect.

Determines the direction of winds .

3) Weather maps.

Helping pilots and sailors navigate and predicting weather changes.

4) The white color of the Stevenson screen

To reflect sunlight and prevent heating the instruments.

5) The slanted openings in the Stevenson screen.

To allow air circulation while protecting instruments from direct sun/rain.

6) Placing the Weather Kiosk away from trees and buildings.

To get accurate readings unaffected by heat or wind blocks.

7) The radiosonde balloon.

Carrying instruments to measure weather in the upper atmosphere.

8) Meteorological satellites.

Providing images and data about clouds and storms from space.

9) The parachute in the radiosonde.

To ensure the instruments return safely to Earth after the balloon bursts.

10) Weather Forecast Icons (Symbols)

To represent weather conditions (rain, sun, wind) simply on maps.

6

Mark (✓) or (x), with correction :

Unit 3

1)	Gametes contain a diploid number of chromosomes (2n).	(x)
2)	Asexual reproduction takes place by mitosis.	(✓)
3)	Cancerous tumors result from repeated abnormal meiotic divisions.	(x)
4)	Crossing-over phenomenon between chromosomes contributes to genetic diversity among individuals.	(✓)
5)	Winds move in completely straight paths from the poles to the equator.	(x)
6)	Wind speed increases when the difference in atmospheric pressure is large.	(✓)
7)	In the Northern Hemisphere, winds rotate around the center of a low-pressure system anticlockwise direction	(✓)
8)	Cold, moist air in polar regions forms a high-pressure area.	(x)
9)	The Coriolis effect is responsible for winds moving in curved paths.	(✓)
10)	Lines of equal pressure are called isobars.	(✓)
11)	At the center of a low-pressure system, pressure values are higher than in surrounding areas.	(x)

7

Choose the correct answer:

Unit 2

1) When the lever is at equilibrium.....

- a) Effort x load arm = load x Effort arm
- b) Moment of effort > Moment of load
- c) Effort x its arm > load x its arm
- d) Moment of effort = Moment of load

2) Ice tongs.....

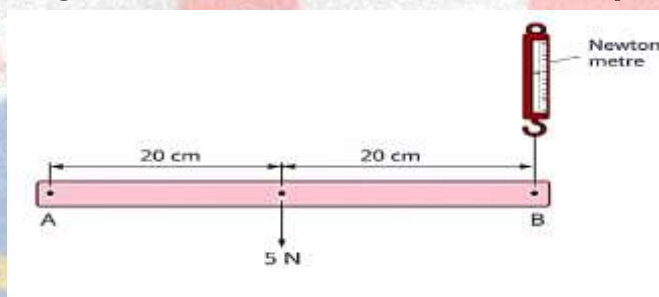
a) have a mechanical advantage equal to 1

b) are a third-class lever.

c) have a mechanical advantage greater than 1

d) are a second-class lever.

3) A metal rod AB of weight 5 N is able to rotate around point A



What is the reading of the Newton meter when the rod is balanced horizontally?

a) 2.5N

b) 5N

c) 8N

d) 10 N

4) The cells of parts illustrated in the opposite figure contain the same number of

unit 3

a) ATP molecules.

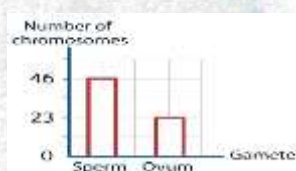
b) gametes.

c) chromosomes (2n).

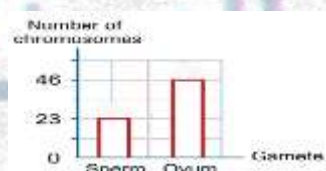
d) chromosomes (n).



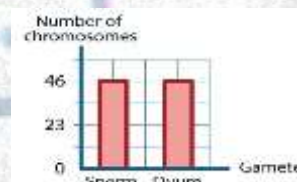
5) Which of the following represents the number of chromosomes found in human gametes?



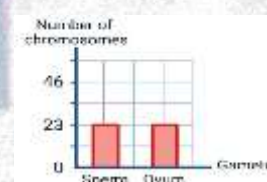
(a)



(b)

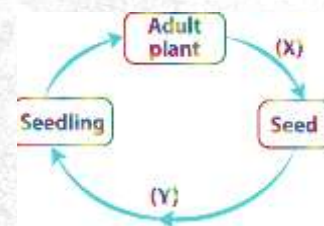


(c)



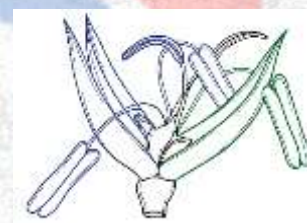
(d)

- 6) The opposite figure illustrates the life cycle of a flowering plant: Which of the following describes both processes Choose x and (Y)?



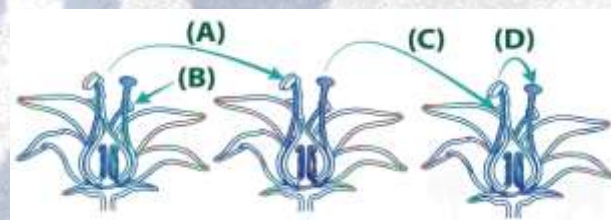
- a) (x): Germination and fertiization ,(Y) Pollinasion.
b) (x): Pollination and fertillization . ,(Y) Germination.
 c) (x): Pollination ,(Y): Fertilization and germination
 d) (x): Fertilization. ,(Y) Pollination and germination.

- 7) The coposite figure illustrates the structure of a flower. Which of the following describes this flower?



- a) Bisexual, insect-pollinated
 b) Unisexual, wind-pollinatod
 c) Unisexual, insect-pollinated
d) Bisexual, wind-pollinaled

- 8) From the opposite figure Which letter indicates cross-pollination?



- a) (A)
 b) (B)
c) (C)
 d) (D)

- 9) Which statement correctly describes he petunia flower?

- a) Its petals are arranged in a single whorl.**
 b) Its petals are green in colour.
 c) Its sepals are soparate.
 d) The number of its sepals is double the number of its petals

10) What occurs immediately after fertilization in sexual reproduction?

- a) A zygote with a tetraploid chromosome number ($4n$) is formed.
- b) The zygote begins to divide mitotically.
- c) The zygote undergoes meiotic division.
- d) A zygote with a haploid chromosome number (n) is formed.

unit 4

11) Winds arise as a result of differences in between Neighboring areas

- a) temperature
- b) atmospheric pressure
- c) humidity

12) Air always moves from areas of ... pressure to areas of pressure.

- a) high/low
- b) low/high
- c) low/low

13) The rotation of the Earth around its axis causes the deflection of winds, known as.....

- a) greenhouse effect
- b) Coriolis effect
- c) atmospheric pressure

14) Winds are deflected in the Northern Hemisphere to the of their original direction.

- a) right
- b) left
- c) east

15) Winds are deflected in the Southern Hemisphere the clockwise direction

- a) with
- b) against
- c) parallel to

16) Wind deflection is greatest at the.....

- a) equator
- b) poles
- c) tropics

17) A high atmospheric pressure area is represented by the symbol

- a) L
- b) H
- c) P

18) On weather maps, the lines that connect points of equal pressure are called

a) isobars

b) lines of longitude

c) elevations

19) A low-pressure area is represented by the color

a) blue

b) red

c) yellow

20) A low-pressure area (L) forms at the

a) poles

b) equator

c) cold regions

21) Weather forecasts help farmers determine the times of.....

a) irrigation

b) harvesting

c) both of them

22) One of the safety measures during Khamaseen winds is.....

a) wearing a mask

b) traveling by sea

c) irrigating crops

23) A weather forecast for ... is more accurate than a one-week forecast.

a) two days

b) a month

c) a year

24) Weather forecast aim in protection of lives from ..

a) earthquakes

b) thunderstorms

c) volcanoes

25) Aircraft navigation mainly depends on knowing

a) weather maps

b) ocean depths

c) forests

26) The most important climatic element is

a) temperature.

b) atmospheric pressure.

c) humidity

d) wind

27) Normal atmospheric pressure equals

a) 1013.25 mm Hg

b) 700 mb

c) 1013.25 mb

d) 760 cm.Hg

28) Which of the following is correct?

- a) Temperatures are equal at latitude 30' North and latitude 0"
- b) Temperatures are equal at latitude 30" South and the Equator.
- c) Temperature at latitude 60" North is higher than at latitude 0" in winter.
- d) Temperature at latitude 60" North is lower than at the Equator in winter

29) Which of the following expresses Coriolis Effect?

- a) Its effect reaches its maximum at the Equator.
- b) it causes wind to be deflected to the left in the Southern Hemisphere.
- c) It does not cause wind deflection in the Northern Hemisphere.
- d) Its effect becomes clear when atmospheric pressure values differ.

30) Air currents in a low-pressure system rotate.....

- a) in a clockwise direction, outward away from the system.
- b) in a clockwise direction, inward toward the center of the system.
- c) in an anticlockwise direction, outward away from the center of the system.
- d) in an anticlockwise direction, inward toward the center of the system.

31) Radiosonde sensors collect weather data while they are in.....

- a) the atmosphere.
- b) the oceans.
- c) weather station shelters
- d) weather stations

8 what is meant by

Unit 2

Simple Machine	A device used to perform tasks more easily.
Lever	A rigid bar that rotates around a fixed point (fulcrum) and is affected by effort and load.
Fulcrum	The fixed point on which the lever rotates.
Effort arm	The distance between the effort force and the fulcrum.
Load arm	The distance between the load (resistance) and the fulcrum.
The Law of Levers	$\text{Effort} \times \text{its arm} = \text{Load} \times \text{its arm}.$

Moment of effort	The product of effort force and its arm.
Moment of load	The product of load force and its arm.
Mechanical advantage of lever	The ratio between the load and the effort.
Somatic cells	All body cells that contain the full set of chromosomes (2n) and divide by mitosis.
Asexual reproduction	A process where a single parent produces offspring that are genetically identical to itself without the need for gametes.
Reproductive cells	Also known as gametes (sperm and ova), these are cells produced by reproductive organs that contain half the number of chromosomes (n).
Mitosis	A type of cell division where one somatic cell divides into two identical daughter cells, each containing the same number of chromosomes (2n)
Meiosis	type of division occurs in gonad cells which each diploid cell 2n divides into 4 haploid cells 2
Genetic crossing over	A phenomenon occurs in meiosis 1 where exchange in genetic materials leads to diversity of genetic traits
Flower	A short stem whose leaves are modified to carry out reproduction
Typical flower	A flower that contains the four floral whorls
Floral envelope	The outer two whorls (Calyx and Corolla) combined .
Androecium	The male reproductive organ consisting of stamens.
Gynoecium	The female reproductive organ consisting of carpels.
Bisexual flower	A flower that carries both male and female organs .
Unisexual flower	A flower that carries either male organs or female organs only.
Pollination	The process of transferring pollen grains from anthers to stigmas.
Fertilization	The fusion of a male nucleus (pollen grain) with a female nucleus (ovum) to form a zygote.
Weather	The state of the atmosphere in a short period of time, such as a day or a week.

unit 3

unit 4

Climate	The average weather conditions in a specific region over a long period of time, such as years.
Maximum temperature	The highest temperature recorded during the day.
Minimum temperature	The lowest temperature recorded during the night.
Daily average temperature	The average of the maximum and minimum temperatures recorded in 24 hours.
Daily temperature range	The difference between the maximum and minimum temperatures during one day.
Atmospheric pressure	The weight of an air column of an atmospheric height acting on a unit area.
Humidity	The amount of water vapor present in the atmosphere.
Absolute humidity	The actual mass of water vapor present in a specific volume of air.
Relative humidity	The ratio between the actual amount of water vapor in the air and the maximum amount it can hold at the same temperature.
Winds:	Movement of air from high-pressure areas to low-pressure areas.
Coriolis effect:	The deflection of winds due to Earth's rotation.
Isobars:	Lines on a map connecting points of equal atmospheric pressure.
Low-pressure system (L):	An area where air pressure is lower than the surroundings (Symbol: L).
The Weather Kiosk (Stevenson's Kiosk):	A white wooden box used to protect weather Temperature humidity.
Weather forecasting:	Predicting future atmospheric conditions based on data.
Radiosonde:	A tool sent by balloon to measure weather in upper layers.
Meteorological buoys:	Floating devices that collect weather data from oceans.
High-pressure system:	An area where air pressure is higher than the surroundings (Symbol: H).
Khamaseen winds:	Seasonal dusty winds that blow in Egypt during spring.

9 compare between eqch of the following

Unit 2

- 9) The first, second and third class of levers in terms of: (definition - mentioning an example of each type - saving effort).

	First class levers	Second class levers	Third class levers
Positions of their three elements	The fulcrum (F) (pivot point) is located between the effort (E) and the load (L)	The load (L) is located between the fulcrum (F) (pivot point) and the effort (E)	The effort (E) is located between the fulcrum (F) (pivot point) and the load (L)
Mechanical advantage	Less than, greater than or equal to 1	Always greater than 1	Always less than 1
Examples	- Seesaw. - Crowbar. - Pliers. - Scissors.	- Wheelbarrow. - Nutcracker. - Lemon squeezer. - Bottle opener.	- Tennis racket. - Tweezers. - Coal tongs. - Broom.

10)

Unit 3

a) Somatic cells and reproductive (germ) cells.

1. Somatic cells:

Contain full number of chromosomes (2n) and divide by mitosis.

2. Reproductive cells:

Contain half the number of chromosomes (n) and are produced by meiosis.

b) Sexual reproduction and asexual reproduction.

1. Sexual reproduction:

Requires two parents, produces genetic variation, and depends on meiosis.

2. Asexual reproduction:

Requires one parent, produces identical offspring, and depends on mitosis.

11) Pollination and Fertilization in Flowers**Means of Pollen Grain Transfer**

Aspect of comparison	Insect pollination	Wind pollination
Color of petals	Bright	Dull
Size of petals	Large	Small
Scent and nectar	Present	Absent
Anthers	Firm	Pendent
Pollen grains	Sticky	Light & Dry
Stigmas	Sticky	Feathery

12) Compare between self-pollination and cross-pollination**(in terms of definition and how each occurs)**

	Self-pollination	Cross-pollination
Definition	The process of the transfer of pollen grains from the anther of a flower to the stigma of the same flower or the stigma of another flower in the same plant	The process of the transfer of pollen grains from the anther of a flower in a plant to the stigma of another flower in another plant of the same species
Characteristics of flowers which undergo this pollination	(1) Simultaneous maturity of the stamens and the pistil at the same time. (2) Anthers are at the same level as stigmas or slightly higher than them. (3) In some cases, flowers remain closed and do not bloom until pollination is completed.	(1) Stamens and pistil do not mature at the same time. (2) Anthers are found far from the stigmas or at a lower level. (3) All flowers are unisexual.

13) Pollen grains in wind-pollinated flowers and pollen grains in insect-pollinated flowers.

Wind-pollinated are light and dry	Insect-pollinated are sticky or rough.
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1. Bisexual flowers and unisexual flowers.

Bisexual has both stamens and carpels	Unisexual has only one (either male or female).
---------------------------------------	---

2. Androecium and gynoecium in terms of structure and function.

Androecium is the male organ (produces pollen)	Gynoecium is the female organ (produces ovules).
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14) Weather and Climate.

Unit 4

1. Weather: The state of the atmosphere in a short period (day or week).	2. Climate: The average state of the atmosphere over a long period (months or years).
--	---

15) Daily average temperature and daily temperature range.

1. Daily temperature range The difference between the maximum and minimum temperatures for one day.	2. Daily average temperature The arithmetic mean of the maximum and minimum temperatures for one day.
---	---

16) Compare between land breeze and sea breeze

(Two points only).

	Land breeze	Sea breeze
Time of occurrence	At night	During the daytime
Direction of movement of cool air	From the land towards the sea	From the sea towards the land

10

correct the following statement

Unit 2

14) Soda water opener is a type first class lever

(Second class lever).

15) One of the functions of the levers is to reduce the effort as in manual broom.

To increase the effort (or "increase speed/distance").

16) The first type of levers differ from the second type of levers in the presence of an effective effort.

The position of the fulcrum (or "saving effort").

17) Gamete cells contain the full number of chromosomes found in
18) somatic cells.

Unit 3

half the number (n).

19) Mitosis is known as reduction division. equational.

20) Asexual reproduction depends on meiosis. mitosis.

21) The first meiotic division is a mitotic division. The second.

22) Vegetative reproduction leads to variation in the inherited characteristics of the resulting individuals. Sexual reproduction.

23) after the second meiotic division, two cells are produced containing half the original number of chromosomes (n). four cells.

24) A bottle opener is a first-class lever. Second-class.

Unit 4

25) One function of levers is decreasing force as in the hand broom. Increasing.

26) First-class levers differ from second-class levers in the presence of an applied force. Position of the fulcrum.

27) A fishing rod is a second-class lever. Third-class.

28) Vegetative reproduction is a form of sexual reproduction. Asexual.

12 various questions

Unit 2

13) The following figures represents a lever from

Unit 2

		
First-class lever type	Third-class lever type	Second-class lever type
1. Head/Neck: First-class lever.	2. Arm: Third-class lever.	3. Foot/Leg: Second-class lever.

14) From the two figures



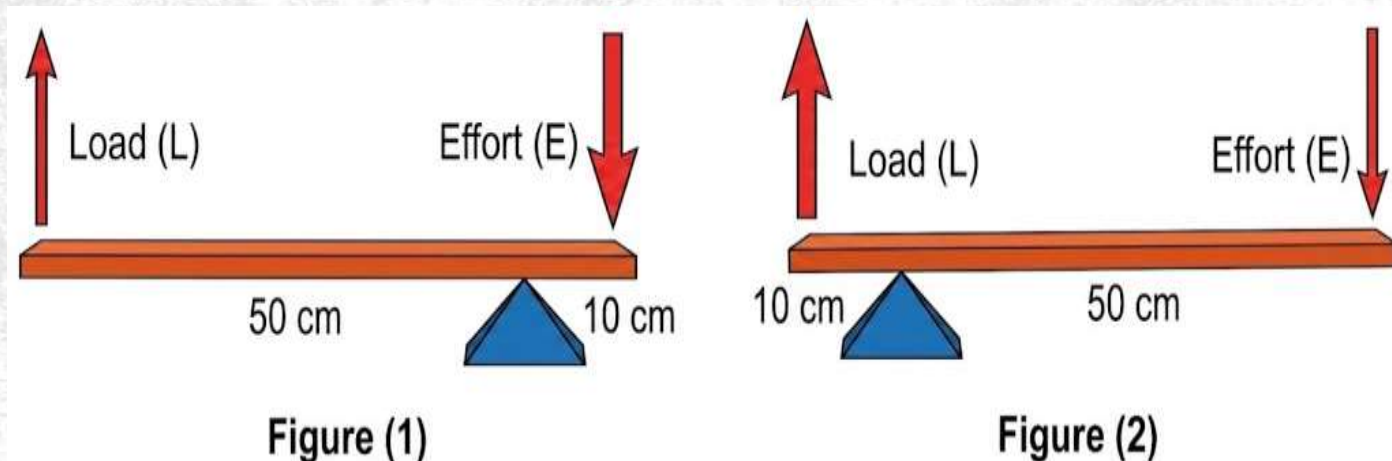
Which figure represents a better way to lift the rock? Explain your answer.

* **Figure (1)/** Because the effort arm in figure (1) is greater than in figure (2) and the greater of the effort arm in the lever, the less effort is required and thus more effort is saved.

What can be done to increase the mechanical advantage of this lever?

* **To increase the mechanical advantage,** the fulcrum is moved towards the stone (load) to increase the effort arm.

15) The following two figures represent a type of levers:



(1) What type of lever is this? Explain your answer.

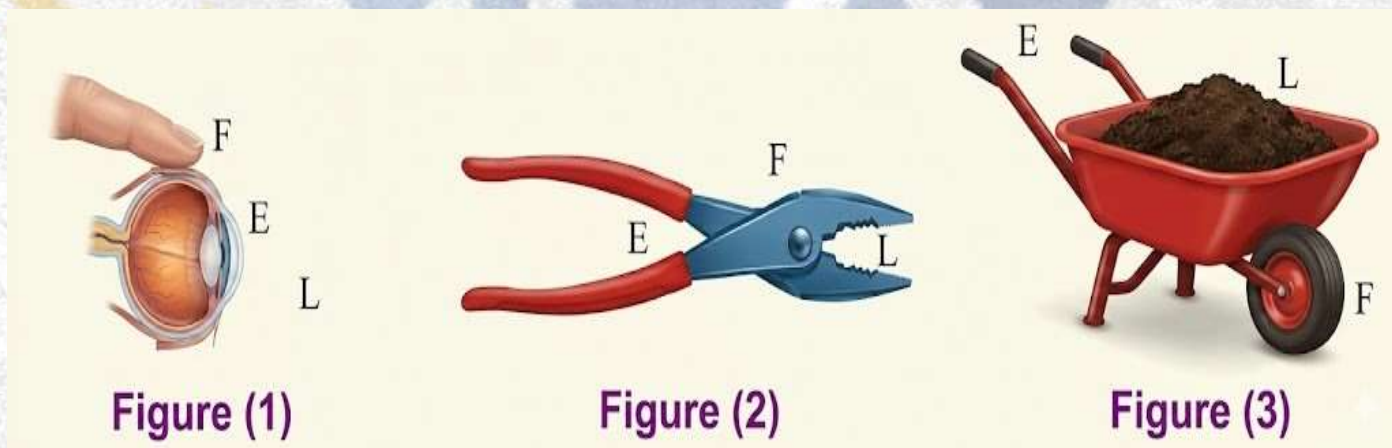
First class lever, because the fulcrum is located between the effort and the load.

(2) Which figure represents the lever when it has a greater mechanical advantage? Find its value.

Figure (2) / Mechanical advantage

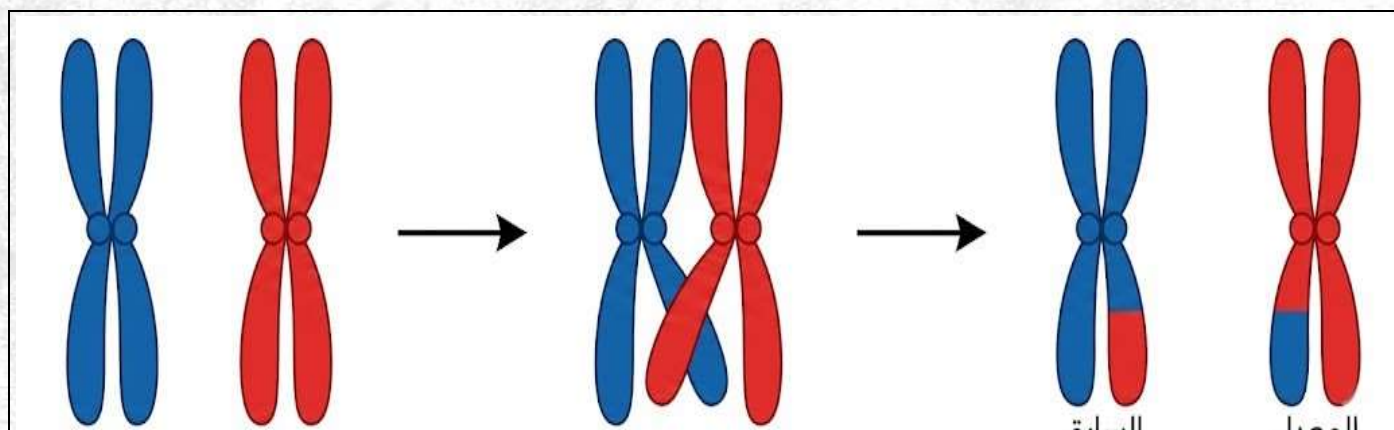
$$= \frac{\text{Effort arm}}{\text{Load arm}} = \frac{50}{10} = 5$$

16) Classify the levers shown in the figures below in terms of their types:



- Figure (1): Third class lever.
- Figure (2): First class lever
- Figure (3): Second class lever.

17) Look at the following figure, then complete the data:



Homologous chromosomes Non-sister chromatids twist around one another	Non-sister Exchange of genetic segments twist around one another	Exchange of Crossing over phenomenon.
Crossing over Phenomena		

18) Study the figures in front of you, then identify the name of the plant and state the difference between them in terms of (petals and sepals).



(2)



(1)

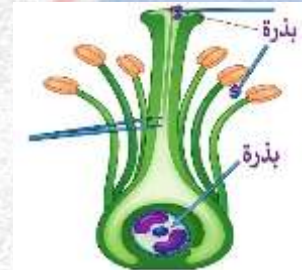
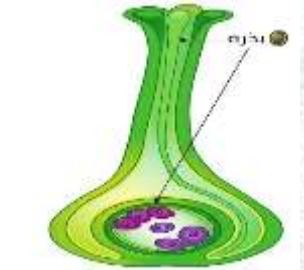
Name of the plant	Sepals	Petals
Rosa	Green & separate	Colored & separate
Petunia	Fused	Fused (Perianth)

19) Observe the following flowers, then determine the sex of each flower and explain the reason:

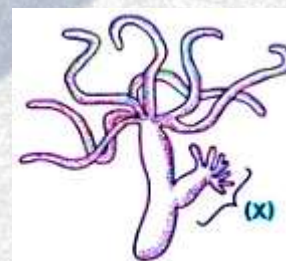
 The flower: 	 The flower: 	 The flower:
The flower: Bisexual Reason: Has stamens and carpels	The flower: Male Reason: Has stamens only	The flower: Female Reason: Has carpels only

20) Fertilization

Determine the steps of fertilization and fruit formation:

			
Pollination	Pollen tube growth	Fertilization	Seed formation

21) The figure shows the reproduction of a living organism produced by a single parent:



(1) Is the number of chromosomes in the cells of part (X) resulting from the reproduction

process equal to (n) or (2n)? **(2n)**

(2) What is the type of this reproduction?

Asexual reproduction.

(3) Does this reproduction occur through meiosis or mitosis? **Mitosis.**

22) The diagram shows the reproduction cycle of the squirrel in which the zygote contains 40 chromosomes :

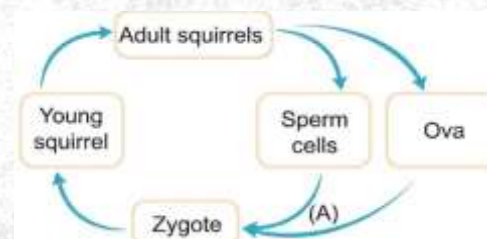
(1) What is the name of process (A)?

Fertilization process.

(2) What is the number of chromosomes in each cell of:

1- Young squirrel. 40 chromosomes.

2- The ova. 20 chromosomes.



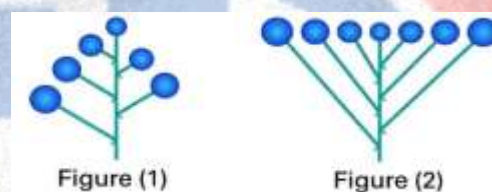
23) In front of you are two examples of inflorescences you have studied

Compare between them in terms of:

(1) Type of inflorescence.

(2) Length of the peduncle.

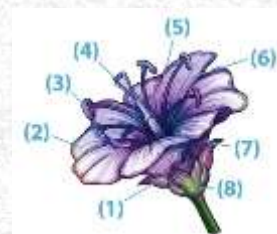
(3) Reason for naming.



	Shape (1)	Shape (2)
(1) Type of inflorescence	Simple raceme inflorescence	Simple corymb inflorescence
(2) Peduncle length	Long	Short
(3) Reason for naming	Flowers emerge from all directions, and each with a small stalk (pedicel), giving it a shape similar to a cluster of grapes	Flowers emerge on both sides of the peduncle, and all are almost at the same level, giving it a shape similar to a comb.

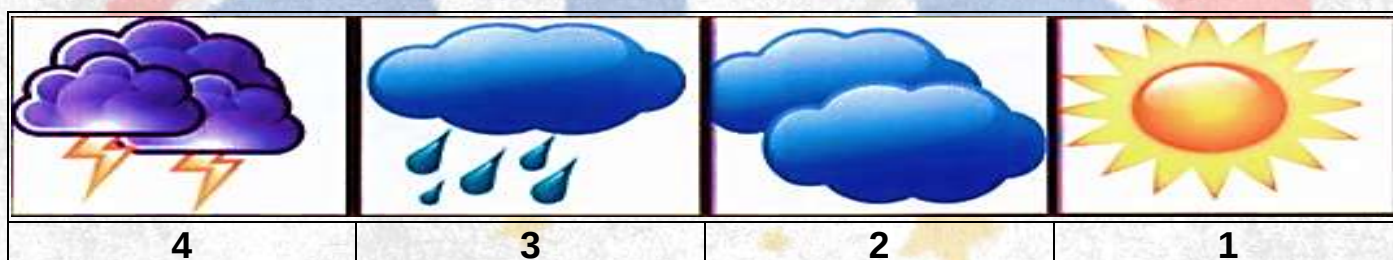
24) Replace the numbers shown in the opposite figure
bers shown with the appropriate labels.

- (1) Sepal. (2) Petal.
 (3) Anther. (4) Stigma.
 (5) Style. (6) Filament.
 (7) Ovary. (8) Receptacle.



14) Identify the symbols:

Unit 4



- 4) The symbol that represents a thunderstorm is **4**
 5) The symbol that represents sunny weather is **1**
 6) What does symbol (3) indicate on weather maps?

Rainy weather

17) The following figure represents one of the natural phenomena

(1) What is the name of this phenomenon?

Does it occur during the day or at night?

Sea breeze / It occurs during the daytime.

(2) According to what you have studied.

mention. What is the cause of this phenomenon?

The specific heat of water is higher than that of the adjacent land.



18) The opposite figure shows a device placed at the base of a mountain once and at its peak another time.

(1) What is the name of this device and what is it used for?

Mercury barometer / It used to measure atmospheric pressure.

2) Identify which figure, (X) or (Y), represents the device when it is at the peak of the mountain. Explain your answer

Figure (X)/ Because as we rise above sea level, the atmospheric pressure decreases and thus the height of the air column affecting the unit area decreases and therefore the height of the mercury column decreases.

19) What does each of the numbers shown on the following map indicate?



(1) Rainfall.

(2) Partly sunny with cloud formation.

(3) Sunny weather.

(4) Thunder and lightning.



كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

